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VOLUME 2

APPENDICES

MISSOULA VALLEY AQUIFER STUDY: HYDROGEOLOGY OF THE EASTERN PORTION OF THE MISSOULA AQUIFER, MISSOULA COUNTY, MONTANA

Prepared for

Water Development Bureau
Montana Department of Natural Resources and Conservation
Helena, Montana

by

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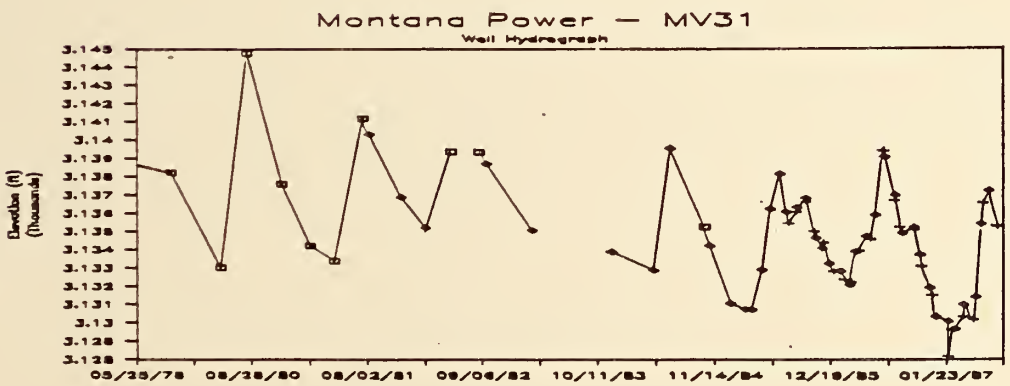

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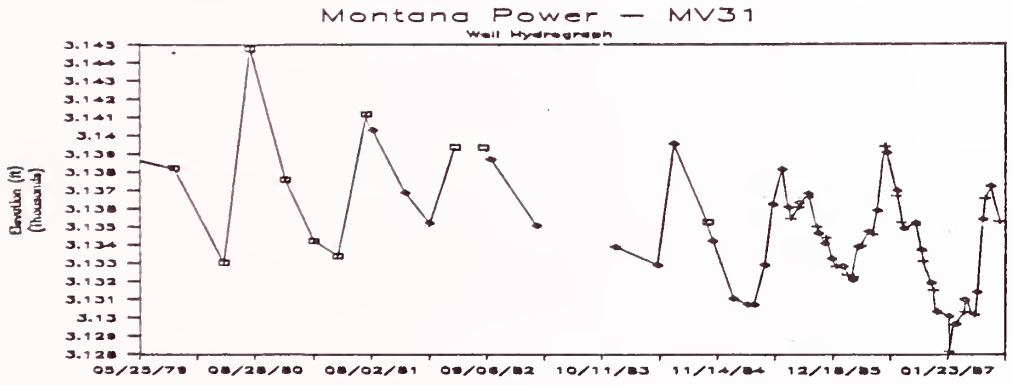

December 16, 1988

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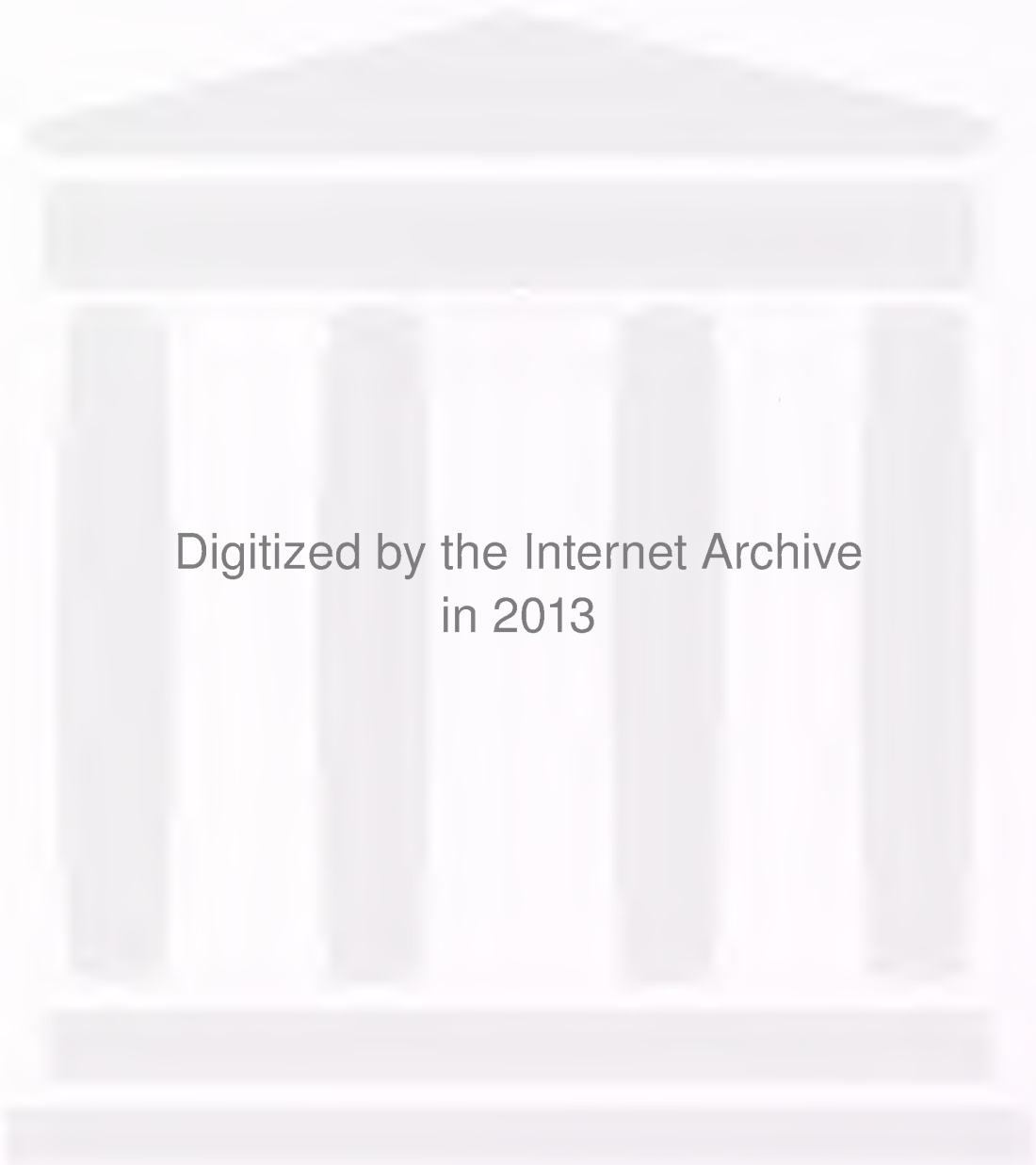
APPENDIX 3A

Well Inventory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This appendix is composed of four sections: 1) Wells used as part of this project's monitoring network (MV); 2) Wells used by Morgan (1986) for his cross sections; 3) Mountain Water Company wells; 4) Wells used by Pottinger (1988) (P). A legend is found on the following page.

WELL INVENTORY LEGEND

Location (USGS Classification)

X	T13N R19W
Y	T13N R20W
Z	T12N R19W
V	T12N R20W

Use

M	Municipal
D	Domestic
I	Irrigation
T	Test
T	Test
Mt	Monitoring
C	Cooling

Drilling Method

R	Rotary
Ct	Cable Tool
A	Augered

Aquifer Material

C	Clay
S	Sand
G	Gravel

PL Plastic casing

NSA No Street Address

Perferated Interval

OH	Open Hole
P	Perferated

Aquifer Test Method

A	Air Lift
P	Pump

Log Confidence Level

G	Good
F	Fair
P	Poor
NL	No log

Aquifer Interval

U	Unconfined
L	Unsure, Leaky

I.D. Number

MWC	Municipal Wells
MV	Missoula Valley Monitoring Wells

Elevation

Top of casing in feet above mean sea level

SECTION 1

MV Wells

WELL INVENTORY - MISSOULA VALLEY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
MV-1 X27aba U of MT Stalum - Destroyed 9/85	U	3220	A	?82 or 84	48.5	2" 0-50								2		P
MV-2 X22asd6 1250 Monroe Street	I	3240	ct	7/67	20	6" 0-20 3207.56	U 11-20	SG	9	17	35	+20	P120	6	OH	G
MV-3 X22ccd7 828 Ronald	D	3207	R	8/79	80	6" 1.5-80 3207.67	U 1-80	SG	55	65	25	+80	A60	6	OH	F
MV-4 X21acb2 Champion Scalehouse	D	3180	ct	7/74	70	6" 2-70 3179.08	U 26-70	SG	27	48	50	+70	A360	6	OH	G
MV-5 X21adb3 501 Front Street	C	3196	R	4/83	99	6" 1.5-99 3195.97	U 50-99	SGC	50	99	75	+99	A60	6	OH	G
MV-6 X21abb4 1010 West Broadway	D	3169		6/73	58	 3179.58								6		P
MV-7 X21bcb5 1309 Idaho Street	D	3169		5/58	55	 3169.04	U 33-55	SG	33					6		

WELL INVENTORY - MISSOULA VALLEY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Test Method Duration (min)	Hole Diam in	Well Perforated Interval	
MV-8 X20aad2 1509 River Road	D	3168	ct	5/63	103	6" 2-103 3167.82	L 18-103	SG	18.3	21	150	+103	P120	6	P91-103	C
MV-9 X20abd3 1931 River Road	D	3162			50	 3161.63								6		ML
MV-10 X17ddd1 1660 W. Broadway	D	3165	R	5/83	60.5	6" 2-60.5 3165.09	U 20-60.5	SGC	20	60	75	+60	A60	6	OH	C
MV-11 X17acd2 2304 W. Broadway	D	3180			94	 3182.68								6		ML
MV-12 X17cad3 2425 Mullan Road	D	3156			43	 3156.33								6		ML
MV-13 X17cbb4 2900 Mullan Road		3160			63	 3160.87								10		ML
MV-14 X18dda0 1105 Clark Fork Dr.	I	3155	ct	8/64	70	6" 1-70 3155.23	L 18-37		11	35	40	+70	A360	6	OH	C

WELL INVENTORY - MISSOULA VALLEY

Well ID # Location	Use	Approx. Land Elevation (ft)	Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
MV-15 X19aadl 2528 Krysty Dr.	D	3151	R 11/73	40	6" 1-40 3150.72	U 10-40	SG	10	30	50	+40	A45	6	OH	F
MV-16 X19dca2 2727 S. 3rd West	D	3152		43	3152.70								6		NL
MV-17 Y24dabl 241 Tower	D	3135	8/60	42	4" 0-42 3135.16								4		NL
MV-18 Y24cdc2 3804 S. 7th West	D	3132		65	3131.71								5		NL
MV-19 Y25bbcl 4040 Rose Brier	D	3128		82	3127.83								5		NL
MV-20 Y26acbl 4412 Spurgin Road	D	3117		40	3116.68								6		NL
MV-21 Y26bca2 4785 Spurgin Road	D	3114		47	3114.32								6		NL

WELL INVENTORY - MISSOULA VALLEY

Well ID # Location	Use	Approx. Land Elevation (ft)	Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
MV-22 Y26dad3 4202 North Avenue	D	3137		80	3137.17								6		NL
MV-23 Y35bbb1 2409 Hanson	D	3109		96	3109.15								4		NL
MV-24 Y35acc2 2900 Humble Road	D	3		60	3124.51								6		NL
MV-25 Y25cdc2 3802 South Avenue	D	3143		102	3142.97								6		NL
MV-26 X30cdc2 3020 South Avenue	D	3156	ct 10/68	83	6" 1.5-83 3156.21	L26-83		26	48	+75	+83	A120	6	OH	G
MV-27 Y25aac3 3434 Spurgin Road	D	3139		57	3138.76								5		NL
MV-28 X30adc3 1520 27th Avenue	D	3167		65	3166.63								6		NL

WELL INVENTORY - MISSOULA VALLEY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
MV-29 X29bca 1405 Eaton	D	3174	R	9/78	79	6" 1.5-79 3174.72	L 36-41 55-59 77-79	SGC	41	75	75	+79	A60	6	OH	G
MV-30 X31ddc 3912 Brooks	D	3159			48	3159.15										NL
MV-31 X29dad 1903 Russell	U	3176		9/58	110	3175.99			50					14		NL
MV-32 X33bdc Pattee Creek Rd & Stevens	Mt	3180	A		51	3178.99								2		NL
MV-33 X34bac Dornblazer Field	I	3205	ct		86	10" 3205.16								10		NL
MV-34 X22cda Madison St. Bridge	Mt	3185	R	12/85	53	6" 2-51 3188.13	U 36-53	SGC	36			+53		6	P31-51	G
MV-35 X21adc McCormick Park	Mt	3173	R	12/85	57	6" 2-57 3175.78	U 32-58	SGC	32			+57		6	P28-48	G

WELL INVENTORY - MISSOULA VALLEY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
MV-36 X22adc Greggery Park	Mt	3220	R	12/85	47	6" 2-47 3219.58	U 23-47	GSC	23.5			+47		6	P25-45	G
MV-37 X19aaa Reserve St. Bridge	Mt	3153	R	12/85	38	6" 2-38 3154.59	U 19-38	GSC	19			+38		6	P25-36	G
MV-38 X34bbb End of South Avenue	Mt	3110	R	12/85	37	6" 1-37 3110.63	U 8-35	SGC	8			+37		6	P20-35	G
MV-39 V1aba Buckhouse Bridge	MT	3150	R	12/85	38	6" 2-38 3151.13	U 27-38	SG	27			+38		6	P24-36	G
MV-40 X30cab State Lands	Mt	3143	R	12/85	50	6" 2-50 3145.67	U 25-50	SCG	25			+50		6	P38-48	G
MV-41 X33adb3	Mt	3200	P	4/86	70	6" 0-20 PL 4"0-70	U 35+	SG	65					6	P60-70	G
MV-42 X33baaa1	Mt	3190	P	4/86	70	6"0-20 PL 4"0-70	U 3c+	SG	56					6	P60-70	G

SECTION 2:

Wells used by Morgan (1986) (Figure 5.3)

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
2 x27dc NSA	D	3215	ct	3/70	51	6" 1.25-51	17.5-51	SG	17.5	22.5	75	+51	A120	6	O	F
4 x28ca 400 Artemos Drive	M	3200	R	10/73	71	6" 0-71	54-71	G	54	59	20	+71	A60	6	O	P
5 x28bc 2535 Sourgin	D	3185	ct	6/72	73	6" 1.58-73	40-73	GS	40	50	70	+73	A60	6	O	P
5b x28dd 2105 South Higgins	DC	3145	ct	3/69	90	6.625" 0-90	60-90	SG	60	80	40	+90	P120	6	O	P
6 x29aa 309 West View Drive	D	3180	ct	10/64	85	6" 4.25-85	44-85	SG	44	63	50	+85	A180	6	O	F
7 x29cb 530 West Central	D	3170	R	4/66	72	6.62" 5-72	35-72	SG	35	50	60	+72	A180	6	P68-72	F
8 x30bc 2705 Spurgin Road	I	3156	ct	3/71	125	16" 2-94.5 92.6-125	29.6-125	SG	29.6	66	2100	+125	A60	16	P92.5-113	G
9 x30aa NSA	DI	3160	ct	10/66	76.5	6.625" 1.9-76.5	27-76.5	SGC	27	50	40	+76.5	A120	6	O	G
10 x30ac 2705 Spurgin Road	D	3158	R	1/81	76.5	6" -6-76.5	31-76.5	SGC	31	33	170	+76.5	P60	6	P66-76	F

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer * Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
11 x30ad 2633 Mount Avenue	DI	3162	ct	4/60	74.75	6" 0-74.75	25.5-74.75	SG	25.5			+74.75		6	O	P
11b x30aa 25th Avenue between Spurgin and Sunset	M	3165	ct	4/72	125	16" 3-125	36-125	SG	36	37	1475	+125	P360	16	P92-118	F
12 x30bc MSA	DI	3150	R	10/82	130	6" 2-130	25.2-130	SG	25.2	27.75	190	+130	P240	6	P115-128	F
13 x30cc South Avenue (Missoula County High School)	D	3151	ct	7/70	89	6" 1.5-89	22-89	SG	22	45	100	+89	A150	6	O	F
14 x30cd 341 South Avenue West	DI	3155	ct	4/71	83.5	6" 0.5-83.5	32-83.5	SGC	32	60	40	+83.5	A120	6	O	P
15 x30da 1706 27th Avenue	D	3162	R	5/76	78	6" 2-78	30-78	SG	30	65	95	+78	A60	6	O	P
16 x30db 2834 Strand	D	3157	ct	8/74	69.5	6" 1.5-69.5	25-69.5	SGC	25	30	100	+69.5	P120	6	O	F
17 x30dc 5911 Lori Court	D	3159	ct	1/75	80	6" 1-80	33-80	SGC	33	40	100	+80	P120	6	O	F

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Aporox. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
18 x30dd 215 South 6th Street West	D1	3164	ct	8/72	67	6.625" 2-55.92	27.5-67	SG	27.5	43	300	+67	A480	6	P55.92-58 58-64 64-67	F
19 x29da NSA	M	3182	ct	4/58	110	14" 0-110	50-110	SG	50			+110		14	O	F
19b x29dd 215 South 6th Street West	I	3180	ct	8/72	104.66	8.625" 12-90 6.625" 98-104.66	40-105	SG	40	84	300	+105	A1200	8	S90-98	G
19c x29ac NSA	M	3180	ct	11/34	90	12.5" 0-90	45-90	SGC	45		1150	+90		12	P70-90	F
20 x31dd 2923 Hilltop Drive	D	3158	ct	10/70	68	6.625" 25-68	31.33-68	SGC	31.33	42	50	+68	A120	6	O	F
21 x31ab 2827 Fort Missoula Road	ID	3150	ct	6/69	127	6.625" 2-99	35-127	SG	35	69	300	+127	A180	6	P99-111	G
22 x31bb NSA (Missoula County High School)	I	3150	ct	6/70	88	6" 2.3-88	23-88	SG	23	28	125	+88	A180	6	O	F

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Test Method Duration (min)	Hole Diam in	Well Perforated Interval	
22b x31ca NSA (Missoula Country Club)	1	3155	ct	10/77	138	12" 1-138	36-138	SG	36	50	1700	+138	P60	12	P107-129	F
24 x32ca 2135 Charlotte	D	3165	ct	5/71	70	6.625" 0-70	34-70	SGC	34	60	30	+70	A90	6	O	F
27 x32bb NSA	DO	3165	ct	6/66	70	6.625" 1.3-70	32-70	SG	32	50	60	+70	A60	6	O	F
29 x32dc 1616 South 39th Street	D	3170	ct	3/61	84	1.8-79.6	40-84	SG	40	48	14	+84	P120		O	G
30 x33cc 800 Kensington	IO	3180	R	8/81	110	8" 6-110	40-110	SGC	40	41	200	+110	P240	8	P98-108	F
31 x33bc NSA	DI	3180	ct	12/62	116	10" 1-116	45-116	SGC	45	62	400	+116	A240	10	P104-115	G
32 x33da 340 West Main	DI	3215		6/55	120		72-120	SGC	72			+120			P95-120	F

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Test	Method Duration (min)	Hole Diam in	Well Perforated Interval	
35 x19bb NSA	DI	3140	ct	1/66	55	6.625" 1.67-55	8.33-55	SG	8.33	19	50	+55		A120	6	O	F
36 x19aa NSA	DI	3150	ct	12/65	71	6.625" -4.5-70	16-71	SG	16	34	100	+71		A150	6	P61-70	F
37 x19ac NSA	D	3150	ct	6/65	54	5" 1.42-55	5-54	SG	5	7	75	+54		P60	5	O	F
38 x19cd 3022 South 3rd Street	D	3140	R	3/77	72.5	6" 1.5-72.5	14-72.5	SGC	14	70	75	+72.5		A60	6	O	F
39 x19da 121 South Grove	D	3155	ct	2/62	86.5	6" 1.2-86.5	22-86.5	SGC	22	24	100	+86.5		P90	6	O	F
41b x20dd NSA	D	3175	ct	5/69	144	16" 2-144	33.5-130	SGC	33.5	42.5	1000	+130		P240	16	P105-125	F
42 x20bc 619 S. W. Higgins	D	3160	ct	4/78	56	6" 1.5-56	15-56	SGC	15	18	100	+56		P180	6	O	F
43 x21bc NSA	DI	3175	ct	8/73	76	8.625" 2-62.33	27-76	SG	27	53	400	+76		A630	8	P62-74 S62	G

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
44 x21cd NSA	D	3190	ct	9/68	127	8.625" 1.5-101 6.625" 122.5-127	50-127	SGC	50	69	300	+127	A240	8	P101-122.5	G
45b x21ac NSA	M	3175	ct	12/49	42	12" 2-92	23-92	SGC	23	23.5	1200	+92	P300	12	P62-72 P82-92	G
46 x18dd NSA	D	3150	R	10/77	118.5	6" 2-118.5	16-118.5	SGC	16	90	95	+118.5	A90	6	O	F
47 x18ba NSA (across from Hellgate High School)	D	3164	ct	6/67	60.5	6" 4.5-64.9	21-60.5	SGC	21	32	60	+60.5	A90	6	O	P
48 x18aa 526 Ford	D	3170	R	8/83	59	6" 1.5-59	20-59	SGC	20	59	75	+59	A60	6	O	F
49 x17ba NSA	O	3175	R	4/77	117	6" 13.5-117	36-117	SGC	36	100	99	+117	A150	6	O	F
50 x17dd NSA	DO	3170	ct	6/67	76	6.625" 0-76	14.5-76	SGC	14.5	54	60	+76	A360	6	P72-75	G
51 x17ab NSA	DO	3178	ct	11/78	98	6" 2-98	48-98	SG	49	60	60	+98	A360	6	O	G

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
52 x17bd NSA	D	3175	ct	3/71	90	6.625" 0-40	45-90	SGC	45	75	60	+90	B360	6	O	F
53 x17dc 1600 River Road	D	3160	R	3/76	65	8" 0-55	28-65	SG	28	30	95	+65	A120	8	P35-55	P
54 x16ab NSA	D	3195	R	10/77	92	6" 2.75-92	53-92	SGC	53	55	60	+92	A120	6	O	F
55 x16ac NSA	D	3190	ct	8/64	123	8" 0-118	40-123	SGC	40	80	150	+123	A90	8	P100-116	P
57 x09cb NSA	D	3200	ct	2/69	224	12" 2-125	55-117	SG	55	110	140	+117	P240	12	P112-118	G
58 x08cd Stephens Avenue	D	3180	ct	11/78	127	6.625" 2-126	38-127	SGC	38	74	90	+127	A480	6	P120-127	G
59 x08db NSA	DD	3180	ct	12/69	185	10.75" 2-145	41-?	SG	41	60	600		A480	10	P143-163	G
60 x08bb NSA	DI	3210	ct	3/67	95	6.625" 0-95	70-95	SG	70	84	45	+95	A60	6	O	F

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
60b x08bb NSA	D	3220	R	9/77	138.5	6" 2-138.5	78-138.5	SG	78	138	50	+138.5	A90	6	O	P
61 x08dd NSA	D1	3180	ct	9/62	218	16" -8-213	24.5-115	SG	29.5	36	4120	+115	PB640	16	P107-115 P121-147 P192-208	G
62 x05ca NSA	D1	3300	ct	4/66	77	6.625" 1-61	29-67	SGC	29	53	50	+67	A150	6	P60-67	G
63 x05cd NSA	D	3280	ct	11/71	140	6" 2-98	19-63	SGC	19	40	30	+63	A120	6	P52-55	F
64 x05cb NSA	D	3282	ct	11/72	132	8.625" 2-114	114-132	SGC	70	105	60		A900	8	S114-21	F
64b x05cc 4850 Reserve		3270	R	7/79	140	6" 0-140		SG	68	140	40		A60	6	O	P
65 x07aa NSA	D	3200	ct	9/57	100	6" 0-100	45.5-100	SG	45.5	55	30	+100	P240	6	P91-96	P

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
65b x07ac NSA	D	3185	R	2/77	137.5	6" 3-137.5	68-137.5	GC	68	95	75	+137.5	A60	6	D	F
65c x07dd 1700 South 3rd Street West	D	3170	R	12/83	100	6.625" 0-100	35-100	SG	35	80	40	+100	A60	6	D	P
66 y13bd Mullan Road	D	3150	R	2/74	77.6	6" 1.5-77.6	26.5-77.6	SG	26.5	40	80	+78	A120	6	D	G
67 y13ab 5355 Mullan Road	D	3158	R	9/83	90	6.625" 0-90	30-90	SGC	30	65	25	+90	A120	6	D	P
68 y13ab NSA	DI	3140	ct	8/64	87	6.625" 1-87	21-87	SG	21	45	40	+87	A360	6	D	G
69 y14ac NSA	D	3144	ct	6/79	95	6" 1-95	24-95	SGC	24	25	75	+95	A120	6	D	F
70 y14bc El Mar Trailer Court	D	3150	ct	6/75	109	0-109	46-109	SG	46	95	20	+109	P180		D	F
71 y14cb NSA	D	3140	ct	10/78	136	6" 0-136	34-136	SG	34	34	45	+136	A180	6	D	P

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
72 y14cc 800 Council Way	D	3130		10/84	178.6	6" 2.5-178.6	c 151-159 c 165-178.8	SG	26	178	75		A60	6	O	P
73 y14da Route 2, Mullan Road	D	3140	ct	8/73	104	6" 1.5-104	17-104	SGC	17	30	95	+104	A180	6	O	G
74 y15aa Mullan Road	D	3200		7/65	155	6.625" 1-155	85-?	SGC	85		80	+155	A	6	O	P
75 y15bb Route 2, Mullan Road	M	3200	R	8/77	209	8" 0-184	76-209	SGC	76	82	690	+209	P120	8	S184-99	G
76 y15dd 634 Marshall	D	3190	R	10/77	188.5	6" 1.5-188.5	83-188.5	SGC	83	140	75	+188.5	A60	6	O	F
77 y15ca Route 2, Mullan Road	D	3180	ct	4/77	175	6" 1-175	88-175	SGC	88	90	30	+175	B180	6	O	F
78 y22aa 1315 South 5th Street West	D	3200	R	6/77	280	6.625" 1.5-280	165-280	SG	165	175	8		A60	6	P160-170 P180-190 P230-240	P
79 y22bb	D	3120	R	6/80	59	6" 1.25-59	24-59	SGC	24	59	100	+59	A60	6	O	F

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
400 Cote Lane																
80 v22cb 5600 Ebb Way	DI	3110	ct	9/77	300	6.625" 2-94.6 160 PVC 86-300	93-300	B	93	170	22		P1440	6	P200-280	G
81 v23dc NSA	O	3120	R	2/74	55	6" -1-55	17-55	SG	17	50	5	+55	A180	6	O	F
82 v24dc 3615 South 3rd Street West	D	3130	ct	3/75	74	6" 2-74	12-74	SGC	12	18	50	+74	A60	6	O	F
83 y24cc 3932 South 7th Street West	D	3130		9/79	65	5" 1-65	16-65	SGC	16	20	35	+65	A120	5	P60-65	F
84 y25bd NSA	D	3130	ct	3/75	87.5	6" 1-87.5	26.5-87.5	SGC	26.5	26.5	150	+87.5	A120	6	O	G
85 y25dc NSA (Target Range)	D	3130	ct	9/65	78	6" 1-78	24-78	SGC	24	24	100	+78	A60	6	O	G
86 v01ac 115 Arrowhead Drive	DI	3144	ct	9/75	92	6.625" 2-92	22-92	SG	22	48	50	+92	A480	6	O	G
87	DI	3144	ct	6/77	92.5	6.625" 2-93	30.5-92.5	SG	30.5	48	50	+92.5	A240	6	O	G

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
v01bb 1610 39th Street																
88 v01da 405 Agnes Avenue	D	3150		1/65	185	8.625" -7-127 6.625" 176-186	?-185	SG		75	150	+185	A60	8	S124-176	G
89 v01dc NSA	D	3150	R	10/75	180	6" 1-180.5	19.5-180	SG	19.5		50	+180	A150	6	O	G
90 v02cc 5100 Evergreen Road	D	3200	R	3/77	150	6.625" 1-150			60	70	5		A90	6	P100-143	P
91 v02cc NSA	D	3170	ct	1/64	165	6" 0.5-167.5			75	150	9		P105	6	O	P
92 v02cd NSA	D	3150	R	5/83	240	6" 3-198	25-50	SGC	25	60	14	+50?	A240	6	P50-56	G
93 z05bd NSA	D	3300	R	10/76	300	6" 0-300	290-300	G	265	295	10		A60	6	O	P
94 z06ab NSA	D	3170	ct	6/71	125.5	18" 1.25-90 16" 120-125.5	25.75-125	SG	25.75	66	2000	+125	A2400	18	S90-120	G

MISSOULA VALLEY WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Test	Method Duration (min)	Hole Diam in	Well Perforated Interval	
95 z06bb NSA	D	3160	R	4/75	82	6.625" 1-82	32-82	SG	32	65	40	+82		A120	6	O	P
95b z06ba NSA	M	3160	ct	6/66	120	12"	31.5-120	SG	31.5		1500	+120			12	P101-119	F
96 y26da NSA	D	3130	R	9/84	92.5	6" 1.5-92.5	10-92.5	SG	10		100	+92.5		A60	6	O	F
97 y26ab 2900 Rumble	D	3120	R	4/85	59	6" 1.5-59	13-59	SGC	13	30	50	+59		A60	6	O	F
98 y35ab 2431 Glen Drive	D	3130	ct	5/66	59	6" 1.25-58.3	15-57	SG	15	30	60	+57		A120	6	O	F

SECTION 3

Mountain Water Company Wells (MWC)

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Test	Method Duration (min)	Hole Diam in	Well Perforated Interval	
MWC-1 x21cdd South 6th Avenue	M	3193		5/34	120	12.5" 0-120				50					12.5	P	
MWC-2 X29accl South 14th Street	M	3180	ct	11/34	90	12" 0-90	U 45-90	SG	45		1150	+90			12	P70-90	F
MWC-3 X28dcdl South Avenue	M	3180	ct	2/35	118	12" 0-118	U 54-104	SG	54	90	1200	+104			12	P85-116	F
MWC-3A X28dcd2 South Avenue	M T	3180	ct	11/84	230	18" 2-192 6" 92-230	L 53-104	GSC	51	54	2400	+104	P240		18	P80-104 P149-152 P177-180	G
MWC-7 x29dad Russell and Strand	M	3180	ct	4/58	110	14" 0-110	U 80-110	SG	58	85	1200	+110	1440		14	P95-109	G
MWC-8 X29cdc2 Schilling Street	M	3170	ct	6/54	117	12" 0-117	U 50-117	GSC	50	90	1200	+117	P1440		12	P71-114	G
MWC-9 X32cbal Dixon Avenue	M	3170	ct	8/54	132	12" 0-132	U 44-132	GSC	44	90	1200	+132	P1440		12	P80-87 P112-116	G
MWC-10 x27bc NSA	M	3200	ct	6/57	147.75	12" 0-147.75	70-147.75	SG	70	90	1200	+147.75			12	P95-100 P110-120 P135-146	G
MWC-11 x33adc Park and Agnes	M	3200	ct	7/57	118.5	12" 0-118	U 86-115	SG		90	1200	+118			12	P90-115	F
MWC-13 X14baal Mountain View Drive	M	3360	ct	8/64	127	12" 0-127	U 25-123	GC	25	85	800	+123	P420		12	P70-78 P113-123	G
MWC-14 X32dddd2 South Russell	M	3180	ct	5/76	109					38	100	+109	P			P81-107	F

WELL INVENTORY - MISSOULA VALLEY

Well ID # Location	Use	Approx. Land Elevation (ft)		Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval	
MWC-16 V6bac 24th Street	M	3160	ct	6/66	120	12" 0-120	L 31-120	GSC	31.5		1500	+120		12	P101-119	F
MWC-18 v06bbb Gharret Street	M		ct	8/68	105	16" 1.5-105	U 83-105	SG	31	39	1000	+105	450	16	P95-103	G
MWC-19 X16bbb1 North Russell	M	3180	ct	4/69	109	16" 0-109	U 48-109	GSC	48	51.4	1000	+109	P120	16	P85-105	G
MWC-20 X20ddc Catlin Street	M	3160	ct	5/69	143.6	16"0-143.6	L 55-130	GSC	33.5	42.5	1000	130	P240	16	P105-125	G
MWC-21 X27cca1 East Central Street	M	3200	ct	6/69	137	16" 0-137	L 83-101	GSC	58	63.6	1000	+137	P30	16	P90-96 P112-132	G
MWC-22 X21acc1 Champion Lumber Yard	M	3180	ct	12/49	92	12" 2-92	U 23-92	GS	23	23.5	1200	+92	P300	12	P62-72 P82-92	G
MWC-23 x33dac Pattee Creek	M	3200	ct	7/45	113	8" 0-100	U 96-113	SG	70			+113		8	P105-113	F
MWC-24 x33dac Pattee Creek	M	3200	ct	6/55	120	12" 0-120	U 101-120	SG	70			+120		12	P95-120	F
MWC-25 x33cdc Stephens	M	3190	ct	8/66	146	14" 2-146	U 90-127	SG	45	73	1000	+127	2905A	14	P90-127	G
MWC-26 X32aad3 Benton Avenue	M	3180	ct	7/71	125	16" 2-125	46-125	SG	38	40.4	1275	+125	P480	16	P100-120	G

WELL INVENTORY - MISSOULA VALLEY

Well ID # / Location	Use	Approx. Land Elevation (ft)		Date Completed	Total depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam io	Well Perforated Interval	
MWC-27 X30adb 26th Street	M	3160	ct	4/72	118	16" 3-125	L 53-125	SGC	36	37	1475	125	P360	16	P92-118	F
MWC-29 Vlaca Orchard Avenue	M	3140	ct	6/73	136	16" 2-136	U 24-135	SGC	24	35	1000	125	P240	16	P100-125	G
MWC-29A Vlac Orchard Avenue	M	3140	R	2/80	200	6" 0-180	U 4-130	SGC	4.4	8.4	240	130	A60	6	P95-105	G-F
MWC-30 X22cbd1 Higgins Street Bridge	M	3200	ct	2/74	158	18" 2-160 3182.4	U 31-98	GSC	31.2	41.2	2000	98	P180	18	P80-96 P112-132	G
MWC-31 X22cac2 Kiwanis Street	M	3200	ct	12/76	135	18" 1-140 3187.9	U 51-80 92-118	GSC	32	47	4100	118	P120	18	P101-117	G
MWC-32 X22cda3 Arthur Avenue	M	3200	ct	8/76	140	18" 0-140 3205.8	U 40-129	GC	43.8	44.3	1500	129	P180	18	P100-125	G
MWC-33 X22cca4 4th Street and Gerald	M	3200	ct		147	3201.0	U 45-135	GS	47			135		18	P118-138	F
MWC-34 X22cda5 Maurice Avenue	M	3200	ct	2/78	196 134	18" 3-196 3196.3	U 41-104	SG	41	42	1400	1-104	P120	18	P80-104	G
MWC-35 x32bac Southgate Mall	M	3170	ct	7/78	145	18" 4-145	U 99-145	SG	32.5	36	2000	+145	60	18	P104-129	G
MWC-36 x16dbd Dickens	M	3192	ct	8/80	131	16" 2-131	U 62-131	SG	51	51	200	+131	90	16	P100-120	G

SECTION 4

Wells Used by Pottinger (1988) (P)

POTTINGER WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)	Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval
P-1	P	3171.88	3-9-77	98.5	6" 0-98.5	30-98.5	SG	30	80	75	+98.5	AC60	6	
P-2	D	NA	8-14-77	69	6" 0-69	52-69	SGC	78	32	75	+69	AC120	6	
P-3	D	3167.10	NA	69	6" 0-69	NA	NA	27	NA	NA	+69	NA	6	
P-4	D	3165.32	NA	69	6" 0-69	NA	NA	26	NA	NA	+69	NA	6	
P-5	D	3161.84	NA	56.5	6" 0-55.5	NA	NA	21	NA	NA	+69	NA	6	
P-6	D	NA	3-19-61	64	6" 0-64	60-64	G	35	44	40	+64	B60	6	
P-6A	D	3166.84	5-17-64	52		48-52	SG	27	27	20	+52	P30	5	
P-7	D	3164.89	6-23-77	57	6" 57	33-57	SG	24	55	75	+57	290	6	
P-8	D	3163.67	7-16-73	65	6" 65	62-65		24	27	90	+65	120	6	
P-9	P	3168.99	NA	101	6" ?	NA	NA	28	NA	NA	NA	NA	6	
P-10	P	3166.93	NA	100	6" ?	NA	NA	26	NA	NA	NA	NA	6	
P-11	P	3169.54	NA	119	6" ?	NA	NA	28	NA	NA	NA	NA	6	
P-12	P	3164.49	NA	51	6" ?	NA	NA	72	NA	NA	NA	NA	6	
P-13	P	NA	NA	NA	hand dug	NA	NA	NA	NA	NA	NA	NA	36	
P-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
P-15	D	3169.89	1956	70	6" 0-70	NA	G	20	NA	NA	+70	NA	6	

POTTINGER WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)	Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval
P-16	D	3175.77	8-11-80	99.5	6" 1-99.5	91-91.5	CSG	34	95	75	+91.5+	AC90	6	
P-17	C	3174.71				CAN'T FIND LOGS								
P-18	C	3175.18	7-21-65	75'2"	6" 1.5-76'2"	72-76'2"	CG	25	65	125	+76+	Comp 360	6	
P-19	A	3184.08	12-13-71	69	6" 0-69	67?-69?	S	46.8	46.8	25	+69+	?60	6	
P-20	C	?	7-21-62	165	6" 1-149	161-165	CG	36	41	40	4	Baler 180	6	
P-21	C	3186.44				CAN'T FIND LOGS								
P-22	P	3181.08	NA	NA	6" 0-?	NA	NA	34	NA	NA	NA	NA	6	
P-23	P	3180.46	NA	57.5	6" 0-?	NA	NA	33	NA	NA	NA	NA	6	
P-24	P	3182.82	NA	57	6" 0-?	NA	NA	36	NA	NA	NA	NA	6	
P-25	P	3181.76	NA	65	6" 0-?	NA	NA	30	NA	NA	NA	NA	6	
P-26	P	3185.64	NA	74	6" 0-?	NA	NA	36	NA	NA	NA	NA	6	
P-27	P	3181.13	7/72	60	6" 0-60	35-60	SG	NA	25	25.5	+25	Pump 180	6	
P-28	P	3197.83	NA	75	6" 0-?	NA	NA	47	NA	NA	NA	NA	6	
P-29	P	3192.75	NA	64	6" 0-?	NA	NA	41	NA	NA	NA	NA	6	
P-30	P	3203.15	NA	75	6" 0-?	NA	NA	49	NA	NA	NA	NA	6	
P-31	A	3210.93	NA	112	6" 0-?	NA	NA	52	NA	NA	NA	NA	6	

POTTINGER WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)	Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval
P-32	P	3211.87	NA	132	6" 0-?	NA	NA	59	NA	NA	NA	NA	6	
P-33	P	3198.71	NA	114	6" 1-1-0	101-106	SG	61	100	80	+106	AC120	6	
P-34	P	3226.29	NA	142	6" 0-?									
P-35	A	3226.16	NA	90	6" 0-?	NA	NA	35	NA	NA	NA	NA	6	
P-36	P	3227.8	4-10-64	73	6" 0-?	62-67	G	29	31	60-70	+67	C60	6	
P-37	P	3231.4	10-15-71	116	6" 2-116	100-116	SG	60	70	90	+116+	B60	6	
P-38	P	3231.76	NA	92	8" 0-?	NA	NA	64	NA	NA	NA	NA	8	
P-39	P	3237.64	NA	112	6" 0-?	NA	NA	50	NA	NA	NA	NA	6	
P-40	P	3244.08	NA	84	6" 0-?	NA	NA	35	NA	NA	NA	NA	6	
P-41	P	3246.14				CAN'T FIND LOGS								
P-42	P	3222.41	NA	1102	6" 0-?	NA	NA	60	NA	NA	NA	NA	6	
P-43	P	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
P-44	P	3204.49	5-26-77	137	6 5/8" 2-136	134-137	boulder gravel	53	72	30	+137+	airlift pump 240	6	
P-45	P	3192.41	NA	75	6" 0-?	NA	NA	52	NA	NA	NA	NA	6	
P-46	P	3179.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
P-47	P	3179.26	NA	72	6" 0-?	NA	NA	36	NA	NA	NA	NA	6	

POTTINGER WELL INVENTORY

Well ID # Location	Use	Approx. Land Elevation (ft)	Date Completed	Total Depth	Casing Record Elevation	Aquifer Interval	Aq. Mat.	Static Water Level	Pump Test Water Level	Test Pumping Rate GPM	Base of Aquifer	Test Method Test Duration (min)	Hole Diam in	Well Perforated Interval
P-48	D	3169.15	5-20-69	71	5" 0-71	65-71	G	27	30	45	+71+	C270	5	
P-49	D	3163.57	8-22-66	71	6" -1-71	68-71	GS	28	28	21	+71+	C240	6	
P-50	D	3171.13	NA	73	6" 0-?	NA	NA	30	NA	NA	NA	NA	6	
P-51	D	3160.44	NA	62	6" 0-?	NA	NA	23	NA	NA	NA	NA	6	
P-52	D	3165.51	NA	65	6" 0-?	NA	NA	30	NA	NA	NA	NA	6	
P-53	D	3153.5	NA	62	6" 1-52	49-52	SG	22	25	25	+52+	C90	6	
P-54	D	3157.07	NA	64	5" 0-?	NA	NA	18	NA	NA	NA	NA	6	
P-55	P	3240.86	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
P-56	D	3187.05	NA	60	6" 0-?	NA	NA	41	NA	NA	NA	NA	6	
P-58	P	3223.64	NA	115(?)	6" 0-?	NA	NA	63	NA	NA	NA	NA	6	
P-59	D	3179.74	4/77	177	NA	170-177	cobbles GS	35	NA	NA	+177+	NA	6	
P-61	D	3158.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
P-62	D	3181.09	NA	60	6" 0-?	NA	NA	40	NA	NA	NA	NA	6	
P-65	D	NA	12-13-83	100	6" 1-100	80-100	G	35	80	40	+100+	AC60	6	
P-81	P	NA	7-15-75	71	6" 2-66	59-71	SG	19	32	150	+71+	C480	6	

APPENDIX 3B

Computer Program PTRAN (CLARK, 1986)

Equations to solve for transmissivity from specific capacity data corrected for the effects of partial penetration.

1. Correct drawdown to an equivalent drawdown that would occur in an equivalent confined aquifer (Jacob, 1963b).

$$s' = (s - s^2) / 2m$$

where: s' = corrected drawdown, ft
s = well log drawdown, ft
m = aquifer thickness, ft

2. Correct discharge rate using the effects of partial penetration (Jacob, 1963b).

$$Q_o = Q / (Y \times (1 + 7(rw/2Ym)^{1/2} \times \cos((PixY)/2)))$$

where: Q_o = discharge rate if well tapped the full saturated aquifer thickness, gpm
Q = discharge rate, gpm
Y = ratio of the length of perforated interval to aquifer thickness
Pi = 3.14
m = aquifer thickness, ft
rw = well radius, ft

3. Use the corrected discharge and drawdown values to solve for transmissivity using Jacob's (1963a) graphic solution.

$$Q/s = T / ((264 \times \log((Txt)/ 2693 \times rw^2 \times SY)) - 65.5)$$

where: Q = discharge, gpm
s = drawdown, ft
T = transmissivity, gpd/ft
t = time, minutes
rw = well radius, ft
SY = specific yield

a) use two values of T one order of magnitude different.
b) solve for Q/s at each T value
c) plot the values -- log T versus log Q/s
d) locate the T value for the corrected specific capacity value (Q_o/s') calculated in parts 1 and 2.

```
C         PTRAN.FOR IS A PROGRAM THAT SOLVES THE JACOB EQUATION
C         WITH THE EFFECTS OF PARTIAL PENETRATION

          REAL M,J,L
          TYPE*, ' '
          TYPE*, ' '
    1     TYPE 2
    2     FORMAT(' ENTER WELL NAME')
          ACCEPT 3,WELL
    3     FORMAT(A10)
          TYPE 4
    4     FORMAT(' ENTER STATIC WATER LEVEL')
          ACCEPT 5,L
    5     FORMAT (F)
          TYPE 50
    50    FORMAT (' ENTER PUMPING WATER LEVEL')
          ACCEPT 51,V
    51    FORMAT (F)
C         S IS DRAWDOWN
          S=V-L
          TYPE 6
    6     FORMAT (' ENTER DISCHARGE IN GPM')
          ACCEPT 7, Q
    7     FORMAT (F)
          TYPE 20
    20    FORMAT(' ENTER BASE OF AQ. IF WT. OR 0. IF CONFINED')
          ACCEPT 21,Z
    21    FORMAT (F)
          IF(Z.EQ.0.) GO TO 31
C         G EQUALS THE UNCONFINED AQUIFER THICKNESS
          G=Z-L
C         SX IS THE EQUIVALENT DRAWDOWN THAT WOULD OCCUR IN AN EQUIVALENT
C         CONFINED AQUIFER
          SX=S-((S*S)/(2*G))
    31    TYPE 8
    8     FORMAT (' ENTER LENGTH OF TEST IN MINUTES')
          ACCEPT 9, T
    9     FORMAT (F)
          TYPE 10
    10    FORMAT (' ENTER 0. IF WT. OR AQUIFER THICKNESS IF CONFINED')
          ACCEPT 11, M
    11    FORMAT (F)
          TYPE 12
    12    FORMAT (' ENTER ESTIMATE OF SPEC. YIELD OR 0. IF CONFINED')
          ACCEPT 13, SWT
    13    FORMAT (F)
          TYPE 14
    14    FORMAT (' ENTER WELL RADIUS IN FEET')
          ACCEPT 15, R
    15    FORMAT (F)
          TYPE 25
    25    FORMAT (' ENTER LENGTH OF PERFERATED INTERVAL')
          ACCEPT 26,P
    26    FORMAT (F)
C         Y = THE FRACTIONAL PART OF AQUIFER TAPPED BY THE WELL
          Y=P/G
          H=7.*(SQRT(R/(2*Y*G)))
C         TYPE*, ' '
C         TYPE*, 'H=',H
C         TYPE*, ' '
```

```
      J=COSD((3.1459*Y)/2)
C     TYPE*, ' '
C     TYPE*, 'J=',J
C     TYPE*, ' '
C     C IS THE JACOB CORRECTION FACTOR
      C=1./(1.+(M*J))
C     TYPE*, ' '
C     TYPE*, 'C=',C
C     TYPE*, ' '
C     QX IS THE RATE OF DISCHARGE IF WELL FULLY PENETRATED AQUIFER
      QX=(C*Q)/Y
      TYPE*, ' '
      TYPE*, 'WELL LOG DRAWDOWN:  S=',S
      TYPE*, ' '
      TYPE*, 'CORRECTED DRAWDOWN:  SX=',SX
      TYPE*, ' '
      TYPE*, 'WELL LOG DISCHARGE:  Q=',Q
      TYPE*, ' '
      TYPE*, 'CORRECTED DISCHARGE:  QX=',QX
      TYPE*, ' '
      TR=1000.
      N=2
      IF(M.EQ.0.) GO TO 200
 100  ST=M*1.0E-06
      SX=S-((S*S)/(2*M))
      TYPE*, ' '
      TYPE*, 'SX=',SX
      TYPE*, ' '
      GO TO 300
 200  ST=SWT
 300  A=(TR*T)/(2693.*(R**2)*ST)
C     TYPE*, ' '
C     TYPE*, 'A=',A
C     TYPE*, ' '
 42   FORMAT (F)
      B=264.*ALOG10(A)-65.5
      IF(N.EQ.1) GO TO 350
C     TYPE*, ' '
C     TYPE*, 'B=',B
C     TYPE*, ' '
      SCA=TR/B
      TRA=TR
      TR=100000.
      N=N-1
      GO TO 300
 350  SCB=TR/B
C     WELL LOG SPECIFIC CAPACITY
      WSC=Q/S
      TYPE*, 'WELL LOG SPECIFIC CAPACITY:  WSC=',WSC
C     CSC IS THE CORRECTED SPECIFIC CAPACITY FOR THE EFFECT OF PARTIAL PEN.
      CSC=QX/SX
      TYPE*, ' '
      TYPE*, 'CORRECTED SPECIFIC CAPACITY:  CSC=',CSC
      TYPE*, ' '
      D=2./ (ALOG10(SCB)-ALOG10(SCA))
C     TYPE*, ' '
C     TYPE*, 'D=',D
C     TYPE*, ' '
      E=5.-D*ALOG10(SCB)
C     TYPE*, ' '
```

```
C       TYPE*, 'E=',E
C       TYPE*, ' '
        TRC=E+D*ALOG10(CSC)
C       TYPE*, ' '
C       TYPE*, 'TRC=',TRC
C       TYPE*, ' '
        TRCF=10.**TRC
        TYPE 17
        TYPE*, 'SLOPE = ',D,'   INTERCEPT = ',E,
     *         '     TRANSMISSIVITY = ',TRCF,' GPD/FT'
        TYPE*, ' '
        TYPE*, ' '
 17      FORMAT (' ')
        TYPE 18
 18      FORMAT (' DO YOU WANT TO MAKE ANOTHER RUN-Y-N?')
        ACCEPT 801,NRUN
 801    FORMAT(A1)
        IF (NRUN.EQ.1HY) GO TO 1
 99     STOP
        END
```

APPENDIX 3C

Transmissivity, Hydraulic Conductivity and Specific Capacity Data (Clark, 1986)

Appendix 3C

RESULTS FROM SPECIFIC CAPACITY DATA

Well #	b (ft)	T (gpd/ft)	K (gpd/ft2)	Q/s (gpm/ft)
Municipal				
MWC-3a	51	1,782,000	34,900	1,084
MWC-8	67	48,000	720	38
MWC-9	88	165,000	1,900	113
MWC-13	110	57,000	520	49
MWC-19	61	884,000	14,500	1,800
MWC-20	75	324,000	4,300	248
MWC-21	18	262,000	15,000	167
MWC-25	47	78,000	1,700	56
MWC-26	79	1,764,000	22,300	1,029
MWC-27	72	4,598,000	63,700	2,396
MWC-29	111	225,000	2,000	181
MWC-30	67	478,000	7,100	360
MWC-31	29	919,000	31,700	640
MWC-32	86	9,752,000	113,400	4,635
MWC-34	63	4,311,000	68,400	2,334
Private				
MV-2	9	161,000	17,900	122
MV-3	25	48,000	1,900	45
MV-4	43	82,000	1,900	61
MV-5	49	41,000	800	39
MV-10	40	62,000	1,600	56
MV-14	19	57,000	3,000	46
MV-15	30	71,000	2,400	68
MV-26	57	112,000	2,000	88
MV-29	38	59,000	1,600	54
A-10 *		4,600	120	
A-14		100	2	
A-19		47,000	8,500	
A-32		210	3	
A-33		52	1	
B-20		1,400	20	
B-28		30,700	7,700	
B-40		19,000	600	
P-3**		1,038,000	7,500	
P-7		127,000	970	
P-8		1,762,000	13,500	
P-16		65,800	520	
P-17		494,000	3,800	
P-18		189,000	1,500	
P-19		2,619,000	19,500	
P-20		366,000	2,800	
P-27		4,149,000	27,700	

P-28	71,000	520
P-32	86,000	670
P-33	37,000	300
P-34	13,000	80
P-36	436,000	2,700
P-37	3,049,000	15,700
P-41	27,000	150
P-44	67,000	460
P-45	25,000	180
P-52	300,000	2,200
P-61	426,000	3,200

* A, B Meyer (1985)
** P Pottinger (1987)

APPENDIX 4A

Well Logs of Project Installed Monitoring Wells

MISSOULA VALLEY WELL MV34 - DRILLING LOG
MV-34 Madison Street Bridge Parcel 3
Drilling Completed: 12/16/85
Recorded By: KW Clark and Dana Bayuk

FEET	DESCRIPTION
0-5	Soil: Dark, sandy, OM rich.
10	Silty Sand: light-tan to flesh, some pebble chips.
15	Silty Sand: Tan with some pebbles and cobble chips. (red and green quartzites and siltites).
23	Sample: Wet ground.
30	Sand and Gravel: Wet, pebbles and cobbles, red and green siltites and quartzites.
35	Sand and Gravel: Wet, pebbles and cobbles, many pebbles 2-3 cm.
41	First Water: At 43' pull back pit to see how much water in hole. They use own water at 41' to aid bit. Good clean gravel.
45	Clean Gravel.
53	Went 18" beyond the 10' below water table so as to perforate full 10' below water table.

--COMPLETION--

Hole bottom at 53.0'. Jack thinks clay lens at 54' due to tan muddy water in "development phase". Getting 5 gallons 12 seconds = 25 gpm in blowing. Perforated 10' in water table, then blow, then perforate upper 10'.
31-51' 5 rounds/10 ' down hole perforator.
Water table = 36.40 '
10" casing to 20 ', 6" casing to 53 '.

MISSOULA VALLEY WELL MV35 - DRILLING LOG
MV-35 McCormick Park
Recorded By: KW Clark
Drilling Completed: 12/16/85

FEET	DESCRIPTION
5	Soil: Sandy, OM rich with red, green, clear pebbles.
10	Sand: Tan, dry, with some pebbles of quartzites and siltites.
15	Sand: Tan, quartzite and siltite pebbles and chips.
20	Sand: Tan, quartzite and siltite pebbles and some larger chips.
25	Sand: Wet (moist), coarser pebbles of red and green quartzites and siltites.
30	Sand and pebbles: Some silts or clay.
35	Sand and pebbles: Some silts or clay.
40	Rounded pebbles 25mm, red siltites and some clay, ball up.
40-45	Clay: "Streak clay", pebbles, silty clay, water. Water table approx. 45 '. Test at 12 gpm.
50	Sand: Fine sand and cobbles.
55 60	

-- COMPLETION --

Casing ends at 58.5 ', bit went down to 60 '. Water table at 40-45 '. Jack thinks 5 ' clay seam at 40-45'. From land down water table approx. 32 '. Perforated from 28 to 48 '. From 38-48 ' blow 30 min.

MISSOULA VALLEY WELL MV36 Rattlesnake - DRILLING LOG
MV-36 ST Don Greggery Park
Drilling Completed: 12/17/85
Recorded By: KW Clark

FEET	DESCRIPTION
5	Soil: Sandy, with some OM and red and green pebbles and chips. Pebbles up to 1 cm.
10	Sand: Buff, smaller pebbles, may be ground larger. Hand drilling 5-10 '.
15	Sand and Pebbles: Slightly moist, red and green quartzite and argillite pebbles up to 1 cm, and some larger chips.
20	Boulders: Slow drilling 15-20 ', big boulders to chew, some 4 cm red quartzite chips, green siltites, sand and pebbles. Note: Jack says, "Dry well on motel west 1 block of Van Buren on Broadway - approx. 140-160 ' in silts and clays".
25	Sand and Clay: Moist, some clay to ball up sand, larger chips, pebbles several cm due to different bit arrangement.
30	Mud: Water at 29-30 ', large pebbles, green and red mud.
35	Several cm chips and pebbles of green and red argillite.
40	Lots of red and green chips of siltites and quartzites, bit went to 42 '.
45	Sand and Pebbles: Lots of green argillite pebbles and chips, many are flat. Muddy water.

-- COMPLETION --

Hole to 47 ' so as to perforate 20 total feet. Note: 10" bit went to 22 '; perforations 25-45 '.
Water Level = 25.60

MISSOULA VALLEY WELL MV37 - DRILLING LOG
MV-37 Reserve Street
Drilling Completed: 12/20/85
Recorded By: KW Clark and Dana Bayuk

FEET	DESCRIPTION
5	Soil: Brown, sandy soil with few granules, lots of quartz sand.
7-8	Pebble: 2 ft. pebble lens of red and green siltites and quartzites, chips too.
10	Sandy: Coarse sand with some chips and pebbles.
15	Sand and Pebbles: Fine sand with maybe some silt. Most pebbles are quartzite.
15-20	Cobbles and Sand: Slow drilling 15-20 ', quartzite chips, fine sand and silt. Color change to light-tan at 18-19 '.
22	Little water at 22 ', and slight rusty colored sediments.
25	Red and green argillite and siltite chips with some pebbles, muddy water.
25-30	Silt: Muddy or silty fines adhere to siltite chips. Easy drilling.
35	Silt: Silt and clay with small chips adhere to larger chips. Pebbles to 5 cm.
40	More water; white, green and red quartzite and argillite chips.

-- COMPLETION --

Perforated 25-36 '. Water Level = 19.7 '

MISSOULA VALLEY WELL MV38 - DRILLING LOG
MV-38 South Avenue
Drilling Completed: 12/18/85
Recorded By: KW Clark

FEET	DESCRIPTION
5	Soil: Humic, sandy soil with coarse sand and 5 mm pebbles.
10	Sand: Buff-colored, coarser sand, with some mica flakes and quartz pebbles. Pebbles up to 1.5 cm.
15	Sand: Coarser sand than 10 ', 2-3 cm pebbles, some granite, with chips, with coarse sand.
20	Sand: Very coarse sand, lots quartz sand, mica, quartz and siltite pebbles as well as granite pebbles. --Hit water at 19 ': easy drilling, no need to drive casing. --From 5 to 20 ' very little fines, all sands.
25	Sand: Coarse sand with a few pebbles of red argillite.
30	Sand: Coarse sand with a few pebbles of red and green argillite.
35	Sand: Coarse quartz sand with a few large pebbles. --Took 30 seconds from 20-35 ', all sand.
37	Sand: Coarse sand with lots of large (5 cm) pebbles of red argillite and quartzite, a few mud balls or clay streaks at 37 ' (cream to tan clay) (very minor)

-- COMPLETION --

Perforated 20-35 '. Water Level = 8'.

MISSOULA VALLEY WELL MV39 - DRILLING LOG
MV-39 Buckhouse Bridge
Drilling Completed: 12/20/85
Recorded By: KW Clark

FEET	DESCRIPTION
5	Sand: Buff colored, medium-fine sand, with cuttings, granules and some pebbles.
10	Sand: Fine-medium sand with red and green quartzite pebbles and chips.
15	Lots of quartzite cuttings, mainly red quartzite with some green. Little fine sand, some 2-3 cm pebbles.
17	Sand and granules: (No sample, but more fine sand and granules).
20	Sand and granules: Fine sand with green and red quartzites in chips and pebbles up to 3 cm.
25	Sand: Moist, coarse to medium sand with 4 cm pebbles. and chips.
30	Sand: Moist to wet, coarse sand with red and green quartzite pebbles.
35	Sand: Coarse sand with argillite chips/granules and quartzite pebble to 4 cm.
38	Sand: Coarse sand to granules, few quartzite chips and pebbles.

-- COMPLETION --

Static water level at 27 ' from land. Perforated 24-36'.

MISSOULA VALLEY WELL MV40 - DRILLING LOG
MV-40 State Lands, Spurgin Road
Drilling Completed: 12/13/85
Recorded By: KW Clark

FEET	DESCRIPTION
5	Sand: Fine to medium sand with chips, granules and a few small pebbles.
10	Chips: Predominantly chips of red and green quartzite and pulverized rock; also some sand, some 5 cm cobbles. Hand drilling from 7 to 15 '.
15	Sand: Chips of red and green quartzite and siltite, fine sand, some pebbles.
20	Sand: Big quartzite chips, fine sand and pebbles.
25	Sand: Moist coarse sand with 5 cm pebbles (23-26 ').
30	Clay and Pebbles and Sand: Water and first clay at 26'.
35	Clay: Lots of clay with silt and sand. Clay gets cleaner downward.
37	Clay: Fairly clean clay, little sand, few pebbles. (Had to add water at 38-39 '). Couldn't take water level when add 40-60 ' pipe due to clogged drill stem.
38-40	Gravel and Mud: Gravel and mud with chips and 2-3 cm pebbles.
45	Granules: Granules, pebbles, some cobbles. Lots of water and medium sand.
50	Granules: Granules, pebbles, some cobbles. Lots of water and medium sand.

-- COMPLETION --

Hole drilled to 50 ' below land surface. Perforated 38-48. Water Level = 25.2 '

MISSOULA VALLEY WELL MV41 - DRILLING LOG
MV-41 Rose Park
Drilling Completed: 4/7/86
Recorded By: Karen Wogsland

FEET	DESCRIPTION
0-15	Sand and Gravel
15-25	Gravel
25-30	Coarse grained sand and gravel
30-35	Very fine grained sand (clay) and gravel
35-70	Coarse grained gravel
65	Static water level
76'4"	Bottom of hole

-- COMPLETION --

6" hole drilled to 76'4". The well was finished by pulling back the steel casing and installing flush couple PVC 4" diameter casing. Ten feet of 4" #60 slot screen with a capped bottom was set from 66.3' to 76.3'. Twenty feet of 6" diameter steel casing was grouted into place as surface casing. A steel instrument shelter was welded to the steel casing. Static water level, 66'.

MISSOULA VALLEY WELL MV42 - DRILLING LOG
MV-42 South Bancroft
Drilling Completed: 4/7/86
Recorded By: Karen Wogsland

FEET	DESCRIPTION
0-7	Fill
7-15	Sand and gravel
15	Fine Sand: Not many cobbles, bit dropped fast.
20-30	Medium sand and gravel: 15-20 ' increase in moisture.
35	Sand and Gravel: Rounded, coarse grained gravel and sand, dry.
40-50	Medium grained sand and gravel: 39 ' moist coarse sand and gravel; 45 ' drying out.
55	Sand and Gravel: Fine sand and fine gravel. Moist at 53 ', at 55 ' started using drilling fluid.
56	Static Water Level
60	Coarse sand and gravel
60-70	Coarse gravel
70	Bottom of hole at 70 ' 4".

-- COMPLETION --

6" hole drilled to 70'4". The well was finished by pulling back the steel casing and installing flush couple PVC 4" diameter casing. Ten feet of 4" #60 slot screen with a capped bottom was set from 60.3' to 70.3'. Twenty feet of 6" diameter steel casing was grouted into place as surface casing. A steel instrument shelter was welded to the steel casing. Static water level, 56'.

APPENDIX 4B

Water Level Measurements

This appendix is organized in three sections: 1) MV well data; 2) MWC wells data; 3) P well data.

SECTION 1

MV Wells

MV2
Earl Martell
1250 Monroe
Elevation = 3239.56 Casing height @ ground level

Date	SWL	Depth To GW
07/24/85	3230.59	8.97
08/22/85	3230.36	9.20
09/23/85	3230.61	8.95
10/24/85	3229.49	10.07
11/25/85	3228.85	10.71
12/30/85	3227.62	11.94
02/03/86	3227.62	11.94
02/28/86	3228.40	11.16
03/27/86	3228.67	10.89
05/05/86	3229.71	9.85
06/19/86	3231.24	8.32
07/24/86	3230.14	9.42
08/14/86	3224.60	14.96
09/30/86	3217.93	21.63
10/22/86	3224.07	15.49
01/27/87	3227.17	12.39
02/07/87	3226.51	13.05
03/21/87	3228.45	11.11
04/25/87	3228.86	10.70
05/19/87	3230.57	8.99
07/20/87	3229.96	9.6

MV3
David McClay
828 Ronald St.
Elevation = 3207.67 Casing height 1 ft.

Date	SWL	Depth To GW
07/24/85	3147.94	59.73
08/22/85	3148.88	58.79
09/23/85	3149.68	57.99
10/24/85	3147.68	59.99
11/25/85	3146.39	61.28
12/30/85	3147.00	60.67
02/03/86	3145.56	62.11
02/28/86	3145.39	62.28
03/27/86	3146.60	61.07
05/05/86	3149.50	58.17
06/19/86	3152.40	55.27
07/24/86	3147.81	59.86
08/14/86	3146.88	60.79
09/30/86	3146.67	61.00
10/22/86	3145.33	62.34
11/29/86	3143.42	64.25
12/14/86	3142.42	65.25
01/27/87	3142.09	65.58
02/07/87	3141.40	66.27
03/21/87	3141.67	66.00
04/25/87	3142.62	65.05
05/19/87	3148.35	59.32
07/20/87	3147.79	59.88

MV4
Champion scale house
Elevation = 3179.08 ft. Casing height +2 ft.

Date	SWL	Depth To GW
05/10/85	3144.11	34.97
05/17/85	3144.66	34.42
05/24/85	3146.62	32.46
05/30/85	3147.82	31.26
06/06/85	3149.57	29.51
06/15/85	3147.76	31.32
06/29/85	3146.46	32.62
07/12/85	3144.63	34.45
07/24/85	3144.42	34.66
08/01/85	3142.67	36.41
08/16/85	3143.93	35.15
08/22/85	3143.56	35.52
09/08/85	3143.48	35.60
09/23/85	3144.66	34.42
10/10/85	3143.64	35.44
10/24/85	3142.36	36.72
11/11/85	3142.31	36.77
11/25/85	3141.32	37.76
12/08/85	3141.16	37.92
12/30/85	3141.01	38.07
02/03/86	3140.44	38.64
02/28/86	3139.99	39.09
03/27/86	3140.22	38.86
05/05/86	3144.03	35.05
06/19/86	3148.03	31.05
07/24/86	3144.97	34.11
08/14/86	3142.92	36.16
09/30/86	3141.38	37.70
10/22/86	3140.92	38.16
11/29/86	3138.35	40.73
01/27/87	3137.24	41.84
02/07/87	3136.99	42.09
03/21/87	3137.58	41.50
04/25/87	3138.62	40.46
05/20/87	3144.02	35.06
07/20/87	3143.45	35.63

MV5
Western MI Clinic
501 Front St.
Elevation = 3195.97 Casing height 1 ft.

Date	SWL	Depth To GW
07/24/85	3144.21	51.76
08/22/85	3144.29	51.68
09/23/85	3145.02	50.95
10/24/85	3143.95	52.02
11/25/85	3142.32	53.65
12/30/85	3142.17	53.80
02/03/86	3141.37	54.60
02/28/86	3141.18	54.79
03/27/86	3142.32	53.65
05/05/86	3145.05	50.92
06/19/86	3146.72	49.25
07/25/86	3145.06	50.91
08/14/86	3140.27	55.70
09/30/86	3143.44	52.53
10/22/86	3138.92	57.05
11/29/86	3139.43	56.54
12/14/86	3138.51	57.46
01/27/87	3137.57	58.40
02/07/87	3137.30	58.67
03/21/87	3138.07	57.90
04/25/87	3138.92	57.05
05/23/87	3143.87	52.10
07/20/87	3143.59	52.38

MW6
Rancho Motel
1010 W. Broadway
Elevation = 3179.58 ft. casing height +1 ft.

Date	SWL	Depth To GW
05/10/85	3143.81	35.77
05/17/85	3144.28	35.30
05/24/85	3146.23	33.35
05/30/85	3147.19	32.39
06/06/85	3147.49	32.09
06/15/85	3147.31	32.27
06/29/85	3145.33	34.25
07/12/85	3144.15	35.43
07/24/85	3143.10	36.48
08/01/85	3142.46	37.12
08/16/85	3143.18	36.40
08/22/85	3143.16	36.42
09/08/85	3142.67	36.91
09/23/85	3143.88	35.70
10/10/85	3143.00	36.58
10/24/85	3141.78	37.80
11/11/85	3140.96	38.62
11/25/85	3140.48	39.10
12/08/85	3140.20	39.38
12/30/85	3140.13	39.45
02/03/86	3139.36	40.22
02/28/86	3139.39	40.19
03/27/86	3141.00	38.58
05/05/86	3142.58	37.00
06/19/86	3147.37	32.21
07/25/86	3144.46	35.12
08/14/86	3142.57	37.01
09/30/86	3141.67	37.91
10/22/86	3140.21	39.37
11/29/86	3138.26	41.32
12/14/86	3137.27	42.31
01/27/87	3136.18	43.40

MW7
Wayne Richley
1309 Idaho
Elevation = 3169.04 Casing height 0.6 ft.

Date	SWL	Depth To GW
07/24/85	3141.25	27.79
08/22/85	3141.97	27.07
09/23/85	3142.48	26.56
10/24/85	3140.76	28.28
11/25/85	3139.24	29.80
12/30/85	3139.00	30.04
02/03/86	3138.24	30.80
02/28/86	3138.56	30.48
03/27/86	3139.89	29.15
05/05/86	3141.94	27.10
06/19/86	3145.24	23.80
07/25/86	3143.13	25.91
08/14/86	3141.30	27.74
09/30/86	3140.44	28.60
10/22/86	3138.96	30.08
11/29/86	3137.08	31.96
12/14/86	3136.20	32.84
01/27/87	3135.24	33.80
02/07/87	3134.95	34.09
03/21/87	3135.96	33.08
04/25/87	3136.94	32.10
05/23/87	3142.48	26.56
07/20/87	3141.64	27.40

MV8
Mobile City Trailor Park
1509 River Rd.
Elevation = 3167.82 Casing height 1.10 ft.

Date	SWL	Depth To GW
08/22/85	3141.10	26.72
09/23/85	3141.62	26.20
10/24/85	3140.03	27.79
11/25/85	3138.45	29.37
12/30/85	3138.12	29.70
02/03/86	3137.38	30.44
02/28/86	3137.85	29.97
03/27/86	3139.15	28.67
05/05/86	3141.22	26.60
06/19/86	3145.22	22.60
07/25/86	3142.50	25.32
09/30/86	3137.64	28.18

MV9
M. Malcom
1931 River Rd.
Elevation = 3161.63 ft. Casing height +2.5 ft.

Date	SWL	Depth To GW
07/24/85	3138.98	22.65
08/22/85	3138.84	22.79
09/23/85	3139.28	22.35
10/24/85	3137.69	23.94
11/25/85	3136.20	25.43
12/30/85	3135.67	25.96
02/03/86	3135.09	26.54
02/28/86	3136.01	25.62
03/27/86	3137.04	24.59
05/05/86	3138.89	22.74
06/17/86	3142.45	19.18
07/25/86	3137.98	21.65
08/14/86	3138.54	23.09
09/30/86	3137.55	24.08
10/22/86	3136.09	25.54
11/29/86	3134.35	27.28
12/14/86	3133.47	28.16
07/20/87	3133.47	22.92

MV10
Greyhound
1660 W. Broadway
Elevation = 3165.09 ft. Casing height +1.8 f

Date	SWL	Depth To GW
05/10/85	3141.07	24.02
05/17/85	3141.27	23.82
05/24/85	3143.62	21.47
05/30/85	3144.38	20.71
06/06/85	3144.65	20.44
06/15/85	3145.00	20.09
06/29/85	3143.04	22.05
07/12/85	3141.47	23.62
07/24/85	3141.45	23.64
08/01/85	3139.59	25.50
08/16/85	3140.46	24.63
08/22/85	3140.49	24.60
09/08/85	3139.91	25.18
09/23/85	3141.04	24.05
10/10/85	3140.31	24.78
10/24/85	3139.64	25.45
11/11/85	3139.07	26.02
11/25/85	3138.08	27.01
12/08/85	3137.67	27.42
12/30/85	3137.49	27.60
02/03/86	3136.80	28.29
02/28/86	3137.34	27.75
03/27/86	3138.71	26.38
05/05/86	3140.77	24.32
06/19/86	3144.78	20.31
07/25/86	3142.06	23.03
08/14/86	3139.78	25.31
09/30/86	3139.14	25.95
10/22/86	3137.77	27.32
11/29/86	3135.91	29.18
12/14/86	3135.04	30.05
01/27/87	3133.83	31.26
02/08/87	3133.56	31.53
03/21/87	3134.72	30.37
04/25/87	3135.97	29.12
05/22/87	3141.09	24.00
07/20/87	3140.28	24.81

MV11
Mill Supply
Palmer & 2304 W. Broadway
Elevation = 3182.68 ft. casing height +1.5 ft.

Date	SWL	Depth To GW
08/22/85	3139.70	42.98
09/23/85	3140.29	42.39
10/24/85	3139.10	43.58
11/25/85	3137.51	45.17
12/30/85	3136.75	45.93
02/03/86	3136.02	46.66
02/28/86	3136.11	46.57
03/27/86	3138.15	44.53
05/05/86	3140.06	42.62
06/19/86	3142.16	40.52
07/25/86	3141.51	41.17

MV12
Humane Design
2425 Mullan Rd.
Elevation = 3156.33 ft. casing height -6.0 ft.

Date	SWL	Depth To GW
08/22/85	3139.76	16.57
09/23/85	3140.37	15.96
10/24/85	3138.99	17.34
11/25/85	3137.40	18.93
12/30/85	3136.69	19.64
02/03/86	3136.03	20.30
02/28/86	3136.09	20.24
03/27/86	3138.19	18.14
05/05/86	3139.71	16.62
06/19/86	3143.41	12.92
07/25/86	3141.00	15.33
08/14/86	3139.56	16.77
09/30/86	3138.36	17.97
10/22/86	3136.70	19.63
11/30/86	3135.24	21.09
12/14/86	3134.40	21.93
01/27/87	3133.14	23.19
03/20/87	3132.79	23.54
04/25/87	3135.72	20.61
05/22/87	3140.61	15.72
07/30/87	3139.63	16.70

MV13
Daily's Inc
Elevation = 3160.87 ft. casing height +2.5 ft.

Date	SWL	Depth To GW
07/24/85	3138.97	21.90
08/22/85	3138.70	22.17
09/23/85	3138.85	22.02
10/24/85	3137.81	23.06
11/25/85	3136.47	24.40
12/30/85	3136.23	24.64
02/03/86	3135.23	25.64
02/28/86	3135.81	25.06
03/27/86	3136.97	23.90
05/05/86	3139.27	21.60
06/19/86	3142.77	18.10
07/25/86	3140.98	19.89
08/14/86	3137.55	23.32
09/30/86	3137.09	23.78
10/22/86	3134.52	26.35
11/30/86	3135.46	25.41
12/14/86	3133.53	27.34
01/27/87	3132.48	28.39
02/08/87	3131.73	29.14
03/20/87	3132.46	28.41
04/25/87	3134.54	26.33
05/22/87	3139.26	21.61
07/20/87	3138.17	22.70

MV14
Humane Society
Elevation = 3155.23 ft. casing height ?

Date	SWL	Depth To GW
08/22/85	3137.26	17.97
09/23/85	3137.71	17.52
10/24/85	3136.27	18.96
11/25/85	3135.18	20.05
12/30/85	3134.63	20.60
02/03/86	3133.98	21.25
03/27/86	3136.04	19.19
05/05/86	3137.90	17.33
06/19/86	3140.26	14.97
10/22/86	3135.22	20.01
11/30/86	3133.45	21.78
12/14/86	3132.54	22.69
01/27/87	3131.49	23.74
02/08/87	3131.13	24.10
03/20/87	3131.56	23.67
04/25/87	3134.07	21.16
05/24/87	3138.49	16.74
07/20/87	3137.45	17.78

MV15
Vic Emmery
Elevation = 3150.72 ft. casing height 0.5 ft.

Date	SWL	Depth to GW
07/24/85	3137.79	12.93
08/22/85	3137.67	13.05
09/23/85	3138.06	12.66
10/24/85	3136.61	14.11
11/25/85	3135.22	15.50
12/30/85	3134.73	15.99
02/04/86	3134.13	16.59
02/28/86	3135.02	15.70
03/27/86	3136.02	14.70
05/05/86	3137.74	12.98
06/19/86	3140.79	9.93
07/26/86	3138.78	11.94
08/14/86	3137.87	12.85
09/30/86	3136.11	14.61
10/22/86	3135.19	15.53
11/30/86	3133.48	17.24
12/14/86	3132.64	18.08
01/27/87	3131.70	19.02
02/08/87	3131.26	19.46
03/20/87	3131.72	19.00
04/25/87	3134.04	16.68
05/24/87	3138.55	12.17
07/20/87	3137.65	13.07

MV16
Jim Caras Nursery
Elevation = 3152.70 ft. Casing height 0.5 ft.

Date	SWL	Depth To GW
05/17/85	3137.2	15.5
05/24/85	3138.58	14.12
05/30/85	3139.22	13.48
06/06/85	3139.18	13.52
06/15/85	3138.79	13.91
06/29/85	3137.57	15.13
07/12/85	3137.03	15.67
07/24/85	3136.29	16.41
08/01/85	3135.62	17.08
08/16/85	3136.19	16.51
08/22/85	3136.2	16.5
09/08/85	3135.76	16.94
09/23/85	3136.41	16.29
10/10/85	3135.32	17.38
10/24/85	3134.69	18.01
11/11/85	3134.38	18.32
11/25/85	3133.55	19.15
12/08/85	3133.45	19.25
12/30/85	3133.03	19.67
02/03/86	3132.60	20.10
02/28/86	3133.42	19.28
03/27/86	3134.22	18.48
05/05/86	3135.61	17.09
06/19/86	3138.87	13.81
07/26/86	3137.13	15.57
08/14/86	3136.00	16.70
09/30/86	3135.09	17.61
10/22/86	3133.63	19.07
11/30/86	3132.07	20.63
12/14/86	3132.00	20.70
01/27/87	3130.50	22.20
02/09/87	3130.03	22.67
03/20/87	3130.08	22.62
04/25/87	3132.20	20.50
05/24/87	3137.01	15.69
07/20/87	3136.22	16.48

MW17
Basil Trollope
Elevation = 3135.16 ft. casing height +1.0 ft.

Date	SWL	Depth to GW
07/24/85	3125.44	9.72
08/22/85	3126.01	9.15
09/23/85	3126.16	9.00
10/24/85	3125.27	9.89
11/25/85	3124.19	10.97
12/30/85	3123.91	11.25
02/04/86	3124.28	10.88
03/27/86	3125.08	10.08

MW18
R. Potter
Elevation = 3131.71

Date	SWL	Depth to GW
07/24/85	3120.57	11.14
08/22/85	3121.01	10.70
09/23/85	3120.84	10.87
10/24/85	3119.53	12.18
11/25/85	3118.71	13.00
12/30/85	3118.75	12.96
02/04/86	3118.71	13.00
02/28/86	3120.06	11.65
03/27/86	3119.69	12.02
05/05/86	3120.26	11.45
06/19/86	3122.48	9.23
07/26/86	3120.78	10.93
08/14/86	3120.66	11.05
09/30/86	3120.20	11.51
10/22/86	3118.98	12.73
11/30/86	3118.53	13.18
12/14/86	3117.87	13.84
01/27/87	3117.93	13.78
02/08/87	3117.83	13.88
03/20/87	3117.90	13.81
04/26/87	3118.81	12.90
05/24/87	3121.44	10.27
07/20/87	3120.86	10.85

MW19
G. Mitchell
Elevation = 3127.83 ft. casing height +1.5 f

Date	SWL	Depth to GW
07/24/85	3116.95	10.88
08/22/85	3117.52	10.31
09/23/85	3117.29	10.54
10/24/85	3115.83	12.00
11/25/85	3115.41	12.42
12/30/85	3115.14	12.69
02/04/86	3115.08	12.75
02/28/86	3116.46	11.37
03/27/86	3116.03	11.80
05/05/86	3116.54	11.29
06/19/86	3119.88	7.95
07/26/86	3117.09	10.74
08/14/86	3116.98	10.85
09/30/86	3116.48	11.35
10/22/86	3115.58	12.25
12/01/86	3114.31	13.52
12/14/86	3113.63	14.20
01/27/87	3114.22	13.61
02/08/87	3114.24	13.59
03/20/87	3114.35	13.48
04/26/87	3115.08	12.75
05/24/87	3117.83	10.00
07/20/87	3117.23	10.60

MV20
J. Tripp
Elevation = 3116.68 ft. casing height +0.8 ft

Date	SWL	Depth to GW
07/24/85	3108.15	8.53
08/22/85	3108.80	7.88
09/23/85	3108.77	7.91
10/24/85	3107.94	8.74
11/25/85	3107.60	9.08
12/30/85	3107.34	9.34
02/04/86	3107.48	9.20
02/28/86	3108.29	8.39
03/27/86	3108.30	8.38
05/05/86	3108.98	7.70
06/19/86	3110.08	6.60
07/26/86	3108.43	8.25
08/14/86	3108.28	8.40
09/30/86	3108.23	8.45
10/22/86	3107.55	9.13
12/01/86	3107.30	9.38
12/14/86	3107.07	9.61
01/27/87	3107.01	9.67
02/09/87	3106.83	9.85
03/20/87	3107.09	9.59
04/25/87	3107.96	8.72
05/24/87	3109.29	7.39
07/20/87	3108.58	8.10

MV21
P. Flink
4785 Spurgin Rd.
Elevation 3114.32 ft. casing height +1.0 ft

Date	SWL	Depth to GW
07/24/85	3100.26	14.06
08/22/85	3100.75	13.57
09/23/85	3101.96	12.36
10/24/85	3101.56	12.76
11/25/85	3101.95	12.37
12/30/85	3101.00	13.32
02/04/86	3101.21	13.11
02/28/86	3103.02	11.30
03/27/86	3102.00	12.32
05/05/86	3103.03	11.29
06/19/86	3103.09	11.23
07/26/86	3101.42	12.90
08/14/86	3099.86	14.46
09/30/86	3101.83	12.49
10/22/86	3101.27	13.05
12/01/86	3101.12	13.20
12/14/86	3100.43	13.89
01/27/87	3100.65	13.67
02/09/87	3100.72	13.60
03/20/87	3101.06	13.26
04/26/87	3102.42	11.90
05/24/87	3102.30	12.02
07/20/87	3101.68	12.64

MV22
J. King
4204 North Avenue
Elevation = 3137.17 ft. casing height ?

Date	SWL	Depth to GW
07/24/85	3113.39	23.78
08/22/85	3114.13	23.04
09/23/85	3113.23	23.94
10/24/85	3111.60	25.57
11/25/85	3111.19	25.98
12/30/85	3110.78	26.39
02/04/86	3110.78	26.39
02/28/86	3112.08	25.09
03/27/86	3111.73	25.44
05/05/86	3112.18	24.99
06/19/86	3114.23	22.94
07/26/86	3113.56	23.61
08/14/86	3113.45	23.72
09/30/86	3112.57	24.60
10/22/86	3111.24	25.93
12/02/86	3110.74	26.43
12/14/86	3110.54	26.63
01/27/87	3110.19	26.98
02/09/87	3110.15	27.02
03/20/87	3109.09	28.08
04/26/87	3110.90	26.27
05/31/87	3115.09	22.08
07/20/87	3113.79	23.38

MV23
J. Bauer
2409 Hanson
Elevation = 3109.15 ft. casing height -2.0 ft.

Date	SWL	Depth to GW
07/24/85	3101.1	8.05
08/22/85	3101.96	7.19
09/23/85	3102.09	7.06
10/24/85	3101.39	7.76
11/25/85	3100.95	8.20
12/30/85	3100.43	8.72
02/04/86	3100.73	8.42
02/28/86	3102.63	6.52
05/05/86	3102.96	6.19

MV24
R. Rangitsch
2900 Humble
Elevation = 3124.51 ft. casing height -5.58

Date	SWL	Depth to GW
07/24/85	3110.87	13.64
08/22/85	3111.57	12.94
09/23/85	3109.91	14.60
10/24/85	3107.86	16.65
11/25/85	3106.93	17.58
12/30/85	3106.43	18.08
02/04/86	3106.11	18.40
02/28/86	3108.71	15.80
03/27/86	3107.99	16.52
05/05/86	3107.73	16.78
06/19/86	3112.03	12.48
07/26/86	3111.61	12.90
08/14/86	3108.29	16.22
09/30/86	3110.93	13.58
10/22/86	3108.30	16.21
12/02/86	3106.41	18.10
12/14/86	3105.22	19.29
01/27/87	3105.64	18.87
02/10/87	3105.56	18.95
03/20/87	3105.68	18.83
04/26/87	3106.10	18.41
05/31/87	3113.21	11.30
07/20/87	3111.76	12.75

MV25
Church of God
3802 South Avenue
Elevation 3142.97 ft. casing @ ground level

Date	SWL	Depth to GW
07/24/85	3117.38	25.59
08/22/85	3118.35	24.62
09/23/85	3117.81	25.16
10/24/85	3115.97	27.00
11/25/85	3115.99	26.98
12/30/85	3115.52	27.45
02/04/86	3115.51	27.46
02/28/86	3116.57	26.40
03/27/86	3116.62	26.35
05/05/86	3116.90	26.07
06/19/86	3120.40	22.57
07/26/86	3118.20	24.77
08/14/86	3117.97	25.00
09/30/86	3116.93	26.04
10/22/86	3116.09	26.88
12/02/86	3115.57	27.40
12/14/86	3115.25	27.72
01/27/87	3114.15	28.82
02/10/87	3114.77	28.20
03/20/87	3114.82	28.15
04/26/87	3115.43	27.54
05/31/87	3121.66	21.31
07/20/87	3118.22	24.75

MV26
Trinity Baptist Church
3020 South Avenue
Elevation = 3156.21 ft. casing height +1.5 f

Date	SWL	Depth to GW
07/23/85	3125.71	30.50
08/21/85	3125.56	30.65
09/23/85	3126.51	29.70
10/22/85	3125.00	31.21
11/24/85	3124.21	32.00
12/29/85	3123.52	32.69
02/04/86	3123.30	32.91
02/27/86	3124.05	32.16
03/26/86	3124.53	31.68
05/04/86	3125.08	31.13
06/19/86	3129.10	27.11
07/27/86	3126.64	29.57
08/14/86	3126.12	30.09
09/30/86	3125.49	30.72
10/22/86	3124.24	31.97
12/02/86	3123.03	33.18
12/14/86	3122.80	33.41
01/27/87	3121.98	34.23
02/10/87	3121.83	34.38
03/20/87	3121.78	34.43
04/26/87	3122.50	33.71
05/31/87	3127.44	28.77
07/20/87	3126.35	29.86

MV27
L. Steel
3434 Spurgin Road
Elevation = 3138.76 ft. casing @ ground level

Date	SWL	Depth
07/24/85	3126.96	11.80
08/22/85	3127.00	11.76
09/24/85	3126.72	12.04
10/23/85	3125.04	13.72
11/25/85	3124.38	14.38
12/30/85	3123.76	15.00
02/05/86	3123.69	15.07
02/28/86	3124.71	14.05
03/27/86	3124.86	13.90
05/05/86	3125.49	13.27
06/19/86	3128.99	9.77
07/27/86	3127.13	11.63
08/14/86	3126.74	12.02
09/30/86	3125.72	13.04
10/22/86	3124.36	14.40
12/03/86	3123.41	15.35
12/14/86	3123.56	15.20
01/27/87	3122.46	16.30
02/10/87	3122.32	16.44
03/20/87	3122.38	16.38
04/26/87	3123.23	15.53
05/31/87	3128.08	10.68
07/20/87	3126.99	11.77

MV28
D. Scott
1520 27th Avenue
Elevation = 3166.63 ft. casing heig

Date	SWL	Depth to GW
07/24/85	3133.02	33.61
08/22/85	3133.02	33.61
09/24/85	3133.03	33.60
10/23/85	3131.12	35.51
11/25/85	3130.02	36.61
12/30/85	3129.35	37.28
02/05/86	3128.98	37.65
02/28/86	3129.52	37.11
03/27/86	3130.47	36.16
05/05/86	3131.25	35.38
06/19/86	3135.89	30.74
07/27/86	3133.81	32.82
08/14/86	3133.13	33.50
09/30/86	3130.50	36.13
10/22/86	3130.02	36.61
12/03/86	3128.40	38.23
12/14/86	3127.97	38.66
01/27/87	3126.96	39.67
02/10/87	3126.71	39.92
03/20/87	3126.68	39.95
04/25/87	3127.78	38.85
05/31/87	3134.28	32.35
07/20/87	3132.96	33.67

MV29
F. Joeseph
1405 Eaton
Elevation 3174.42 ft. casing height +1.7 ft.

Date	SWL	Depth
07/24/85	3134.75	39.67
08/22/85	3134.64	39.78
09/24/85	3136.08	38.34
10/23/85	3133.14	41.28
11/25/85	3131.96	42.46
12/30/85	3130.43	43.99
02/05/86	3130.79	43.63
02/28/86	3131.25	43.17
03/27/86	3130.28	44.14
05/05/86	3133.22	41.20
06/19/86	3136.89	37.53
07/27/86	3135.64	38.78
09/30/86	3132.82	41.60
10/22/86	3131.87	42.55
12/03/86	3130.11	44.31
12/14/86	3129.65	44.77
01/27/87	3128.55	45.87
02/10/87	3128.28	46.14
03/20/87	3128.23	46.19
04/26/87	3129.42	45.00
06/02/87	3136.15	38.27
07/20/87	3134.55	39.87

MV30
The Fireplace Center
3912 Brooks Street
Elevation = 3159.15 ft. casing height +2.0

Date	SWL	Depth to GW
07/24/85	3123.43	35.72
08/22/85	3123.56	35.59
09/24/85	3125.10	34.05
10/23/85	3123.35	35.80
11/25/85	3123.40	35.75
12/30/85	3122.60	36.55
02/05/86	3122.45	36.70
02/28/86	3123.75	35.40
03/27/86	3123.94	35.21
05/05/86	3124.23	34.92
06/19/86	3127.72	31.43
07/27/86	3125.39	33.76
08/14/86	3123.53	35.62
10/01/86	3124.76	34.39
10/22/86	3123.39	35.76
12/04/86	3122.36	36.79
12/14/86	3122.09	37.06
01/27/87	3121.38	37.77
02/10/87	3121.28	37.87
03/20/87	3121.18	37.97
04/25/87	3121.92	37.23
06/01/87	3124.29	34.86
07/20/87	3124.34	34.81

MV31
Montana Power Co.
1903 Russell Street
casing height -7.0 ft.

USGS Data
datum elevation = 3182.9

Date	SWL	Depth To GW
09/18/58	3140.97	41.93
10/12/58	3139.29	43.61
11/17/58	3136.24	46.66
01/12/59	3133.79	49.11
02/09/59	3133.44	49.46
03/02/59	3132.97	49.93
03/23/59	3133.25	49.65
04/13/59	3134.30	48.60
06/04/59	3140.28	42.62
06/29/59	3145.48	37.42
07/13/59	3144.95	37.95
08/10/59	3144.10	38.80
09/14/59	3141.80	41.10
10/12/59	3139.66	43.24
11/09/59	3138.31	44.59
12/07/59	3136.85	46.05
01/03/60	3135.81	47.09
02/11/60	3133.75	49.15
03/17/60	3132.81	50.09
04/12/60	3134.46	48.44
05/09/60	3135.75	47.15
06/16/60	3142.32	40.58
07/04/60	3143.67	39.23
08/08/60	3143.09	39.81
09/12/60	3140.74	42.16
10/10/60	3138.99	43.91
11/14/60	3136.47	46.43
12/12/60	3134.24	48.66
01/09/61	3132.84	50.06
02/13/61	3131.97	50.93
04/10/61	3132.40	50.50
05/01/61	3132.89	50.01
06/01/61	3138.30	44.60
07/03/61	3143.86	39.04
08/03/61	3142.70	40.20
10/09/61	3138.47	44.43
11/13/61	3136.25	46.65
12/11/61	3134.30	48.60
01/08/62	3133.05	49.85
01/29/62	3132.52	50.38
02/05/62	3132.54	50.36
03/01/62	3133.14	49.76
04/09/62	3133.95	48.95
05/07/62	3137.26	45.64
06/11/62	3143.04	39.86
07/16/62	3144.56	38.34
08/16/62	3143.63	39.27
10/08/62	3139.52	43.38
11/16/62	3136.70	46.20
12/14/62	3135.73	47.17
01/02/63	3135.24	47.66
02/04/63	3134.10	48.80
03/11/63	3135.50	47.40
04/08/63	3136.20	46.70
05/13/63	3137.80	45.10
06/03/63	3142.77	40.13
07/01/63	3144.90	38.00
07/30/63	3143.33	39.57
09/04/63	3142.06	40.84
10/07/63	3140.43	42.47
11/01/63	3138.08	44.82
11/29/63	3136.10	46.80
01/30/64	3133.35	49.55
03/02/64	3130.90	52.00
03/30/64	3132.76	50.14
04/30/64	3133.73	49.17
06/01/64	3140.05	42.85
06/29/64	3145.30	37.60
09/18/64	3141.48	41.42
03/04/65	3135.00	47.90
09/02/65	3142.47	40.43
03/07/66	3133.97	48.93
09/06/66	3140.60	42.30
12/01/66	3135.44	47.46
03/07/67	3133.02	49.88
06/06/67	3141.45	41.45
09/12/67	3140.46	42.44
11/29/67	3136.15	46.75
03/06/68	3134.72	48.18
05/28/68	3139.25	43.65
08/21/68	3141.90	41.00
12/11/68	3135.75	47.15
03/04/69	3133.86	49.04
06/10/69	3143.12	39.78
09/05/69	3140.82	42.08
12/17/69	3134.39	48.51
03/11/70	3132.59	50.31
06/24/70	3143.29	39.61
09/11/70	3140.14	42.76
11/13/70	3135.81	47.09
02/17/71	3134.32	48.58
06/02/71	3141.87	41.03
09/14/71	3140.13	42.77
12/22/71	3133.78	49.12
03/13/72	3134.25	48.65
06/26/72	3145.52	37.38
09/20/72	3140.58	42.32
12/20/72	3134.88	48.02
03/29/73	3132.74	50.16
06/25/73	3141.36	41.54
09/18/73	3139.09	43.81
12/03/73	3134.96	47.94
03/19/74	3134.57	48.33

End of USGS data

Clark
Datum Elevation = 3175.99

Date	SWL	Depth To GW
07/24/85	3135.47	40.52
08/22/85	3136.10	39.89
09/23/85	3136.64	39.35
10/24/85	3135.00	40.99
11/25/85	3134.38	41.61
12/30/85	3132.80	43.19
02/05/86	3132.35	43.64
02/28/86	3132.24	43.75
03/27/86	3133.97	42.02
05/05/86	3134.59	41.40
06/19/86	3139.40	36.59
07/27/86	3136.68	39.31
08/14/86	3135.23	40.76
10/01/86	3135.07	40.92
10/22/86	3133.68	42.31
10/28/86	3133.07	42.92
12/04/86	3131.49	44.50
01/27/87	3128.14	47.85
02/10/87	3129.61	46.38
03/21/87	3130.32	45.67
04/26/87	3130.15	45.84
06/02/87	3136.55	39.44
07/20/87	3135.26	40.73

MV32
Storm sewer well
Pattee Creek Rd. and Stevens
Elevation 3178.99 ft.

Date	SWL	Depth to GW
08/22/85	3133.40	45.59
09/23/85	3134.25	44.74
10/24/85	3133.14	45.85
11/25/85	3131.74	47.25
12/30/85	3130.53	48.46
02/05/86	3130.10	48.89
03/27/86	3130.18	48.81
05/05/86	3131.82	47.17
06/19/86	3135.98	43.01
07/27/86	3133.94	45.05
08/14/86	3132.03	46.96
10/01/86	3131.45	47.54
10/22/86	3131.61	47.38
12/4/86 - Oil Contamination		
05/25/87	3128.99	50.00 dry
06/02/87	3133.07	45.92
07/20/87	3131.98	47.01

MV33
Dornblazer Field
University of Montana - Gardens
Elevation = 3205.16 ft. casing height 1.5 -

Date	SWL	Depth to GW
08/22/85	3137.79	67.37
09/23/85	3139.01	66.15
10/24/85	3138.24	66.92
11/25/85	3136.67	68.49
12/30/85	3135.26	69.90
02/05/86	3134.63	70.53
02/28/86	3134.56	70.60
03/27/86	3136.46	68.70
05/05/86	3136.19	68.97
06/19/86	3135.36	69.80
07/27/86	3138.42	66.74
08/14/86	3135.95	69.21
10/01/86	3137.30	67.86
10/22/86	3136.17	68.99
12/01/86	3134.10	71.06
04/25/87	3131.31	73.85
06/02/87	3136.77	68.39
07/20/87	3135.53	69.63

MV34
Madison Street Monitoring Well #1
Elevation = 3188.13 ft. casing height ?

Date	SWL	Depth to GW
12/30/85	3150.54	37.59
02/05/86	3149.29	38.84
02/28/86	3149.58	38.55
03/27/86	3150.73	37.40
05/05/86	3154.04	34.09
06/19/86	3156.84	31.29
07/24/86	3152.76	35.37
08/14/86	3151.11	37.02
09/30/86	3149.68	38.45
10/22/86	3148.94	39.19
12/04/86	3146.20	41.93
12/14/86	3145.70	42.43
01/27/87	3145.43	42.70
02/11/87	3144.73	43.40
03/21/87	3144.63	43.50
04/15/87	3144.89	43.24
04/25/87	3146.30	41.83
06/02/87	3154.05	34.08
07/30/87	3152.07	36.06

MV35
McCormick Park Monitoring Well #2
Elevation = 3175.78 ft. casing height +2.60 ft.

Date	SWL	Depth to GW
12/30/85	3142.50	33.28
02/05/86	3141.54	34.24
02/28/86	3141.46	34.32
03/27/86	3143.08	32.70
05/05/86	3145.45	30.33
05/08/86	3145.84	29.94
06/19/86	3147.48	28.30
07/24/86	3145.18	30.60
08/14/86	3143.97	31.81
09/30/86	3143.57	32.21
10/22/86	3142.14	33.64
12/05/86	3139.66	36.12
12/14/86	3139.06	36.72
01/27/87	3138.21	37.57
03/21/87	3138.66	37.12
04/25/87	3139.57	36.21
06/02/87	3146.63	29.15
07/30/87	3144.54	31.24

MV36
Greggary Park - well #3
Elevation = 3219.58 ft. casing height ?

Date	SWL Date	Depth to GW
12/30/85	3194.20	25.38
02/03/86	3194.20	25.38
02/28/86	3195.18	24.40
03/27/86	3194.89	24.69
05/05/86	3196.46	23.12
05/08/86	3196.83	22.75
06/19/86	3197.92	21.66
07/24/86	3196.92	22.66
08/14/86	3196.68	22.90
09/30/86	3195.81	23.77
10/22/86	3193.18	26.40
12/04/86	3194.29	25.29
12/14/86	3194.36	25.22
01/27/87	3193.46	26.12
02/11/87	3193.36	26.22
03/21/87	3194.98	24.60
04/25/87	3195.08	24.50
06/02/87	3196.83	22.75
07/20/87	3196.18	23.40

MV37
Reserve Street - well #4
Elev. = 3154.59 ft. Casing height = 1.0 ft.

Date	SWL	Depth to GW
12/30/85	3135.10	19.49
02/03/86	3134.48	20.11
02/28/86	3135.56	19.03
03/27/86	3136.49	18.10
05/05/86	3138.36	16.23
05/08/86	3138.49	16.10
06/19/86	3141.49	13.10
07/30/86	3138.99	15.60
08/14/86	3137.92	16.67
09/30/86	3137.00	17.59
10/22/86	3135.59	19.00
12/05/86	3133.50	21.09
12/14/86	3132.99	21.60
01/27/87	3131.97	22.62
02/08/87	3131.59	23
02/11/87	3131.53	23.06
03/20/87	3132.01	22.58
04/25/87	3134.47	20.12
06/02/87	3139.98	14.61
07/20/87	3138.06	16.53

MV38
South Avenue - well #5
Elevation = 3110.63 Casing height ?

Date	SWL	Depth To GW
12/30/85	3100.79	9.84
02/03/86	3101.10	9.53
02/28/86	3102.90	7.73
03/27/86	3102.18	8.45
05/05/86	3103.01	7.62
06/19/86	3104.82	5.81
07/30/86	3102.50	8.13
08/14/86	3102.34	8.29
09/30/86	3102.48	8.15
10/22/86	3101.46	9.17
12/14/86	3100.92	9.71
01/27/87	3100.60	10.03
02/09/87	3100.70	9.93
03/20/87	3101.09	9.54
04/26/87	3102.49	8.14
06/02/87	3104.09	6.54

MV39
Buckhouse Monitoring Well #6
Elevation = 3145.67 ft. casing height ?

Date	SWL	Depth to GW
03/27/86	3119.77	25.9
05/05/86	3120.62	25.05
06/19/86	3122.61	23.06
07/27/86	3119.95	25.72
08/14/86	3119.37	26.3
10/01/86	3118.36	27.31
10/22/86	3119.13	26.54
12/14/86	3118.45	27.22
01/27/87	3118.08	27.59
02/10/87	3118.04	27.63
03/20/87	3118.09	27.58
04/25/87	3119.45	26.22
06/01/87	3121.16	24.51
07/20/87	3119.64	26.03

MV40
State Lands Monitoring Well #7
Elevation = 3151.13 ft. casing height ?

Date	SWL	Depth to GW
12/30/85	3122.95	28.18
03/27/86	3123.99	27.14
05/05/86	3124.56	26.57
06/19/86	3128.50	22.63
07/27/86	3126.46	24.67
08/14/86	3125.92	25.21
09/30/86	3124.92	26.21
10/22/86	3123.55	27.58
12/14/86	3123.96	27.17
01/27/87	3121.46	29.67
02/10/87	3121.35	29.78
03/20/87	3121.35	29.78
04/26/87	3122.12	29.01
06/02/87	3127.44	23.69
07/20/87	3126.15	24.98

MW41
Blaine/Crosby Monitoring Well
Elevation = 3200 ft. (approx.)

Date	SWL	Depth to GW	
07/27/86	3137.94	62.06	
08/14/86	3136.07	63.93	
10/01/86	3135.92	64.08	
10/22/86	3134.51	65.49	
12/04/86	3129.00	71.00	dry?
12/14/86	3131.96	68.04	
02/10/87	3130.51	69.49	
03/20/87	3131.13	68.87	
04/25/87	3130.83	69.17	
06/02/87	3137.55	62.45	

MW42
South Ave/Bancroft Monitoring Well
Elevation = 3190 ft. (approx.)

Date	SWL	Depth to GW
07/27/86	3136.41	53.59
08/14/86	3134.43	55.57
10/01/86	3135.01	54.99
10/22/86	3133.60	56.40
12/04/86	3131.62	58.38
12/14/86	3131.18	58.82
01/27/87	3129.83	60.17
02/10/87	3129.60	60.40
03/20/87	3129.08	60.92
04/25/87	3129.58	60.42
06/02/87	3135.75	54.25

SECTION 2

MWC Wells

MWC3
South Ave
Elevation = 3193 (approx)

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (g.p.m.)		g.p.m. new data
10/30/84	3123	70.00				
01/11/85	3129	64.00	70.00	2200		
02/21/85	3128	65	70.50	2150		
02/27/85	3127	66.00	71.00	2150		
03/21/85	3128	65.00	70.00	2150		
04/23/85			67.00	2000		
05/22/85			68.00	2300		
06/29/85			66.00	2300		
07/16/85			68.00	2200		940
08/22/85	3133	60.00				
09/24/85			65.00	2250		
10/21/85	3133	60.00	66.00	2200		
11/21/85	3132	61.00	67.00	2210		
12/12/85	3130	63.00	68.00	2200		
01/23/86	3129	64.00	68.00	2150		
02/24/86	3129	64.00	69.00	2150		
03/20/86	3130	63.00	68.00	2200		990
04/23/86	3131	62.00	67.00	2200		980
05/21/86	3131	62.00	67.00	2050		900
06/24/86	3136	57.00	65.00	2300		1000
07/28/86	3133	60.00	67.00	2200		750
08/23/86	3131	62.00	69.00	2100		900
09/23/86	3131	62.00	67.00	1800		980
10/22/86	3130	63.00	68.00	1800		990
11/26/86	3129	64.00	70.00	1850		850
12/16/86	3129	64.00	71.00	2200		950
01/27/87	3127	66.00	72.00	2100		950
02/21/87	3127	66.00	72.00	2100		800
03/24/87	3127	66.00	72.00	2150		950
04/30/87	3126	67.00	73.00	2150		750
05/21/87	3130	63.00	69.00	2150		950
06/24/87	3133	60.00	67.00	2200		960
07/20/87	3131	62.00	69.00			1000
08/25/87	3130	63.00	70.00			900
09/23/87	3130	63.00	72.00			950
10/29/87	3129	64.00	72.00			800
11/23/87	3128	65.00	74.00			700

MWC4
East Missoula South Well
Elevation = 3280ft

Date	SWL	Depth to (static)	Depth to (pumping)	Discharge (GPM)
03/23/87	3205.50	74.50		
04/29/87	3214.00	66.00		
05/23/87	3216.00	64.00		
06/21/87	3216.00	64.00		
07/21/87	3217.00	63.00		
08/23/87	3216.00	64.00		
09/22/87	3214.00	66.00		
10/28/87	3213.00	67.00		
11/17/87	3213.00	67.00		

MWC 7
Montana Power Co.
Russell St.
Elevation = 3176 (aporox.)

Date	SWL	Depth TO GW
04/08/77	3132.50	47.5
07/03/77	3137.33	42.67
09/14/77	3134.58	45.42
10/22/77	3134.08	45.92
12/13/77	3131.92	48.08
01/10/78	3132.00	48
02/28/78	3131.33	48.67
05/24/78	3138.25	41.75
07/18/78	3141.17	38.83
11/29/78	3132.00	48
03/13/79	3130.83	49.17
08/10/79	3137.67	42.33
01/09/80	3131.00	49
08/11/80	3137.00	43
12/02/80	3132.25	47.75
08/06/81	3137.42	42.58
11/25/81	3134.00	46.00
02/17/82	3132.33	47.67
06/02/82	3138.75	41.25
09/20/82	3135.83	44.17
02/25/83	3132.17	47.83
11/28/83	3131.00	49.00
04/19/84	3130.00	50.00
06/15/84	3136.67	43.33
10/27/84	3131.33	48.67
01/09/85	3128.17	51.83
02/28/85	3127.83	52.17
03/22/85	3127.83	52.17
04/27/85	3130.00	50.00
05/24/85	3133.33	46.67
06/25/85	3135.25	44.75
07/16/85	3133.17	46.83
08/23/85	3133.42	46.58
09/24/85	3133.92	46.08
10/28/85	3131.75	48.25
11/19/85	3131.17	48.83
12/13/85	3130.33	49.67
01/23/86	3129.92	50.08
02/24/86	3129.17	50.83
03/17/86	3131.00	49.00
04/23/86	3131.83	48.17
05/21/86	3133.00	47.00
06/24/86	3136.17	43.83
07/29/86	3134.08	45.92
08/23/86	3132.00	48.00
10/01/86	3132.33	47.67
10/22/86	3130.83	49.17
(continued above)		

Date	SWL	Depth TO GW
11/26/86	3129.00	51.00
12/16/86	3127.42	52.58
01/27/87	3127.17	52.83
02/21/87	3126.75	53.25
03/23/87	3128.08	51.92
05/05/87	3128.50	51.50
05/23/87	3132.50	47.50
06/21/87	3134.33	45.67
07/21/87	3132.58	47.42
08/23/87	3131.42	48.58
09/24/87	3130.00	50
10/29/87	3128.83	51.17
11/21/87	3127.92	52.08

MWC11
Agnes
Elevation = 3190 ft.

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (g.p.m.)
02/06/81	3127.33	62.67	65.67	967
08/17/81			63.00	1040
12/02/81	3129.08	60.92	64.17	1025
03/18/82	3127.33	62.67	65.67	920
06/02/82	3133.00	57.00	60.50	1050
09/13/82	3130.67	59.33	62.50	950
02/25/83	3126.17	63.83	66.58	1020

MWC12
5th and Idaho
Elevation = 3280ft.

Date	SWL	Depth to GW (static)
12/13/75	3217.83	62.17
02/25/77	3212.00	68.00
05/13/77	3213.83	66.17
07/05/77	3213.50	66.50
09/14/77	3202.00	78.00
10/31/77	3214.58	65.42
12/13/77	3211.58	68.42
01/11/78	3211.58	68.42
03/07/78	3210.33	69.67
05/27/78	3218.00	62.00
07/18/78	3216.08	63.92
11/29/78	3211.17	68.83
03/21/79	3212.00	68.00
08/08/79	3213.50	66.50
01/10/80	3209.83	70.17
03/13/80	3213.75	66.25
12/03/80	3211.50	68.50
02/04/81	3210.58	69.42
08/06/81	3213.17	66.83
11/23/81	3212.00	68.00
02/17/82	3212.75	67.25
05/27/82	3217.58	62.42
09/15/82	3212.25	67.75
02/17/83	3211.67	68.33
11/30/83		
04/18/84	3220.67	59.33
06/15/84		
10/26/84	3211.00	69.00
01/07/85	3208.83	71.17
02/27/85	3209.00	71.00
03/22/85	3209.33	70.67
04/24/85	3211.00	69.00
05/22/85	3214.08	65.92
06/25/85	3214.33	65.67
07/16/85	3212.08	67.92
08/21/85	3211.25	68.75
09/24/85	3211.92	68.08
10/23/85	3211.58	68.42
11/25/85	3210.67	69.33
12/12/85	3211.67	68.33
01/27/86	3211.83	68.17
02/19/86	3210.67	69.33
03/20/86	3211.92	68.08
04/22/86	3211.75	68.25
05/20/86	3212.67	67.33
06/24/86	3210.25	69.75
07/24/86	3211.50	68.50
08/21/86	3209.50	70.50
09/25/86	3208.50	71.50
10/21/86	3207.50	72.50
11/25/86	3205.67	74.33
12/17/86	3204.58	75.42
01/27/87	3206.25	73.75
02/21/87	3204.83	75.17
03/23/87	3203.58	76.42
04/29/87	3207.67	72.33
05/27/87	3213.08	66.92
06/21/87	3213.00	67.00
07/21/87	3211.50	68.50
08/23/87	3210.17	69.83
09/23/87	3209.17	70.83
10/29/87	3208.17	71.83
11/17/87	3207.17	72.83

(continued above)

MWD13
Mountain View and Rattlesnake Rd.
Elevation = 3370

Date	SWL	Depth to GW (static)
10/03/75	3329.67	40.33
08/24/76	3326.00	44.00
02/24/77	3312.50	57.50
03/29/77	3311.83	58.17
04/10/77	3322.67	47.33
05/31/77	3331.33	38.67
07/03/77	3331.33	38.67
09/14/77	3320.42	49.58
10/31/77	3322.67	47.33
12/13/77	3320.33	49.67
01/11/78	3318.33	51.67
03/07/78	3315.00	55.00
05/27/78	3329.25	40.75
07/18/78	3336.50	33.50
10/13/78	3328.50	41.50
11/29/78	3318.00	52.00
03/21/79	3316.42	53.58
08/08/79	3326.83	43.17
01/10/80	3314.83	55.17
08/11/80	3326.42	43.58
12/04/80	3317.50	52.50
02/04/81	3316.33	53.67
08/06/81	3324.75	45.25
11/25/81	3317.83	52.17
02/19/82	3312.75	57.25
05/27/82	3328.00	42.00
09/17/82	3319.83	50.17
02/17/83	3312.33	57.67
11/30/83	3315.67	54.33
04/18/84	3316.67	53.33
06/15/84	3325.00	45.00
10/23/84	3318.50	51.50
01/07/85	3313.08	56.92
02/27/85	3309.83	60.17
03/22/85	3310.42	59.58
04/29/85	3312.50	57.50
05/21/85	3321.50	48.50
06/25/85	3330.00	40.00
07/16/85	3328.25	41.75
08/19/85	3325.67	44.33
09/24/85	3328.50	41.50
10/23/85	3324.00	46.00
11/21/85	3319.00	51.00
12/12/85	3316.92	53.08
01/23/86	3313.83	56.17
02/19/86	3313.58	56.42
03/11/86	3318.75	51.25
03/13/86	3318.75	51.25
04/22/86	3318.67	51.33
05/20/86	3325.25	44.75
06/25/86	3325.67	44.33
07/24/86	3326.75	43.25
08/21/86	3324.00	46.00
09/23/86	3324.67	45.33
10/21/86	3325.25	44.75
11/25/86	3318.83	51.17
12/19/86	3316.58	53.42
01/26/87	3313.83	56.17
02/21/87	3313.00	57.00
03/25/87	3313.50	56.50
04/29/87	3318.08	51.92
05/22/87	3324.00	46.00
06/21/87	3327.92	42.08
07/20/87	3326.92	43.08
08/22/87	3323.25	46.75
09/24/87	3321.00	49.00
10/27/87	3320.92	49.08
11/21/87	3319.00	51.00

(continued above)

MWC14
So. Russell and 39th
Elevation = 3178

Date	SWL	Depth to GW (static)
02/25/77	3129.83	48.17
05/09/77	3129.67	48.33
07/05/77	3135.00	43.00
08/29/77	3132.33	45.67
10/31/77	3131.83	46.17
12/13/77	3131.83	46.17
01/10/78	3130.42	47.58
03/07/78	3130.17	47.83
07/18/78	3138.00	40.00
11/30/78	3133.75	44.25
03/14/79	3130.17	47.83
08/09/79	3134.50	43.50
01/09/80	3130.00	48.00
08/11/80	3135.17	42.83
12/02/80	3131.58	46.42
02/03/81	3126.67	51.33
08/07/81		
02/17/82		
06/02/82		
09/13/82		
02/16/83		
11/30/83		
04/17/84		
06/17/84		
10/27/84		
01/07/85		
02/27/85		
03/20/85		
04/27/85		
05/22/85		
06/25/85		
07/16/85		
08/22/85		
09/23/85		
10/23/85	3132.00	46.00
11/19/85	3132.00	46.00
12/11/85	3132.00	46.00
01/23/86	3131.00	47.00
02/19/86	3129.00	49.00
03/10/86	3131.00	47.00
04/23/86	3132.00	46.00
05/20/86	3135.00	43.00
06/24/86	3135.00	43.00
07/29/86	3133.00	45.00
08/23/86	3131.00	47.00
07/25/86	3132.00	46.00
10/22/86	3131.00	47.00
11/24/86	3131.00	47.00
12/16/86	3128.00	50.00
01/26/87	3128.00	50.00
02/21/87	3127.00	51.00
03/23/87	3129.00	49.00
04/23/87	3128.00	50.00
05/21/87	3132.00	46.00
06/21/87	3133.00	45.00
07/20/87	3132.00	46.00
08/20/87	3131.00	47.00
09/23/87	3130.00	48.00
10/28/87	3130.00	48.00
11/21/87	3128.00	50.00

(continued above)

MWC16
24th and Briggs
Elevation = 3163

Date	SWL	Depth to GW (static)
02/03/81	3122.17	40.83
08/07/81	3124.58	38.42
11/25/81	3123.17	39.83
02/22/82	3123.33	39.67
05/27/82	3127.00	36.00
09/13/82	3124.50	38.50
02/25/83	3122.17	40.83
11/30/83	3122.00	41.00
04/18/84	3121.67	41.33
06/14/84	3126.00	37.00
10/27/84	3122.25	40.75
01/07/85	3120.50	42.50
02/27/85	3120.17	42.83
03/20/85	3120.17	42.83
04/27/85	3121.25	41.75
05/22/85	3123.00	40.00
06/29/85	3124.00	39.00
07/16/85	3122.42	40.58
08/22/85	3123.67	39.33
09/24/85	3123.92	39.08
10/22/85	3123.17	39.83
11/19/85	3122.50	40.50
12/12/85	3121.67	41.33
01/21/86	3121.08	41.92
02/19/86	3121.50	41.50
03/10/86	3123.33	39.67
03/13/86	3123.33	39.67
04/23/86	3123.00	40.00
05/20/86	3123.33	39.67
06/24/86	3126.00	37.00
07/29/86	3124.00	39.00
08/23/86	3122.67	40.33
09/25/86	3123.83	39.17
10/22/86	3122.33	40.67
11/24/86	3122.00	41.00
12/16/86	3120.58	42.42
01/26/87	3120.17	42.83
02/21/87	3119.92	43.08
03/23/87	3119.92	43.08
04/23/87	3120.33	42.67
05/21/87	3122.83	40.17
06/21/87	3124.50	38.50
07/20/87	3123.08	39.92
08/23/87	3122.08	40.92
09/23/87	3121.58	41.42
10/22/87	3120.92	42.08
11/21/87	3120.17	42.83

MWC17
MOMONT (INDUSTRIAL PARK)
Elevation = 3200 (aprox.)

Date	SWL	Depth to GW (static)
11/02/75		
02/28/77	3088.50	111.50
05/18/77	3087.33	112.67
07/03/77	3090.00	110.00
09/14/77	3089.25	110.75
10/31/77	3087.92	112.08
12/13/77		
01/11/78		
07/12/78	3096.00	104.00
12/01/78	3091.83	108.17
03/12/79	3087.58	112.42
08/10/79	3095.50	104.50
01/10/80	3088.33	111.67
08/11/80	3094.67	105.33
12/03/80	3091.00	109.00
02/03/81	3088.33	111.67
08/07/81	3092.00	108.00
11/30/81	3088.42	111.58
02/25/82	3087.33	112.67
05/24/82	3088.83	111.17
09/20/82	3093.00	107.00
02/23/83	3087.50	112.50
12/07/83	3089.50	110.50
04/19/84	3086.00	114.00
06/12/84	3089.50	110.50
10/31/84	3089.67	110.33
01/07/85	3086.83	113.17
02/28/85	3085.33	114.67
03/28/85	3085.00	115.00
04/29/85	3085.25	114.75
07/01/85	3087.00	113.00
07/15/85	3088.92	111.08
08/20/85	3090.00	110.00
09/24/85	3090.50	109.50
10/21/85	3090.67	109.33
11/19/85	3090.00	110.00
12/17/85	3088.67	111.33
01/27/86	3087.00	113.00
02/19/86	3086.00	114.00
03/23/86	3087.00	113.00
04/24/86	3087.25	112.75
05/20/86	3088.50	111.50
06/26/86	3089.50	110.50
07/28/86	3089.67	110.33
08/22/86	3091.50	108.50
10/05/86	3090.67	109.33
10/24/86	3090.83	109.17
11/25/86	3089.83	110.17
12/18/86	3088.33	111.67
01/27/87	3086.92	113.08
02/24/87	3085.83	114.17
03/25/87	3085.17	114.83
05/05/87	3085.08	114.92
06/16/87	3085.50	114.50
06/24/87	3087.83	112.17
07/23/87	3088.33	111.67
08/20/87	3087.75	112.25
09/29/87	3087.92	112.08
10/30/87	3086.33	113.67
11/23/87	3085.50	114.50

(continued above)

MWC19
ND.RUSSELL
Elevation = 3186

Date	SWL	Depth to GW (static)
02/25/77	3133.00	53.00
05/13/77	3136.17	49.83
07/05/77	3140.58	45.42
09/14/77	3137.50	48.50
10/31/77	3135.08	50.92
12/13/77	3133.75	52.25
01/11/78	3133.25	52.75
02/28/78	3132.67	53.33
05/27/78	3140.50	45.50
07/17/78	3142.92	43.08
11/29/78	3133.92	52.08
03/12/79	3133.50	52.50
08/10/79	3138.17	47.83
01/08/80	3131.83	54.17
08/14/80	3139.25	46.75
12/01/80	3133.58	52.42
08/10/81	3140.92	45.08
12/02/81	3135.83	50.17
02/17/82	3135.33	50.67
05/25/82	3140.67	45.33
09/17/82	3137.83	48.17
03/02/83	3134.00	52.00
12/12/83	3132.17	53.83
04/18/84	3133.00	53.00
06/12/84	3139.25	46.75
10/27/84	3133.33	52.67
01/10/85	3128.67	57.33
02/28/85	3127.75	58.25
03/28/85	3128.67	57.33
04/29/85	3133.67	52.33
05/24/85	3137.67	48.33
07/01/85	3137.58	48.42
07/15/85	3137.17	48.83
08/21/85	3135.33	50.67
09/25/85	3135.92	50.08
10/24/85	3134.58	51.42
11/19/85	3133.50	52.50
12/13/85	3132.50	53.50
01/27/86	3132.00	54.00
02/19/86	3131.25	54.75
03/11/86	3132.92	53.08
03/13/86	3133.17	52.83
03/17/86	3133.42	52.58
04/25/86	3135.17	50.83
05/22/86	3136.58	49.42
06/26/86	3140.58	45.42
07/28/86	3136.83	49.17
08/21/86	3132.67	53.33
10/05/86	3135.25	50.75
10/22/86	3132.83	53.17
11/25/86	3131.00	55.00
12/19/86	3130.00	56.00
01/28/87	3128.75	57.25
02/23/87	3128.17	57.83
03/25/87	3128.67	57.33
05/05/87	3132.83	53.17
05/22/87	3136.75	49.25
06/21/87	3137.08	48.92
07/23/87	3135.25	50.75
08/23/87	3133.50	52.50
09/29/87	3132.33	53.67
10/27/87	3131.00	55.00
11/21/87	3130.75	55.25

(continued above)

MWC20
Catlin So. of 14th
Elevation = 3186

Date	SWL	Depth to GW (static)
10/01/75	3148.00	38.00
02/25/77	3143.50	42.50
05/13/77	3147.75	38.25
07/03/77	3149.67	36.33
09/14/77	3147.08	38.92
10/31/77	3145.50	40.50
12/13/77	3144.25	41.75
01/10/78	3144.42	41.58
02/28/78	3143.67	42.33
05/27/78	3150.83	35.17
07/17/78	3151.00	35.00
11/29/78	3144.75	41.25
03/12/79	3143.00	43.00
08/11/79	3148.83	37.17
01/10/80	3143.33	42.67
08/11/80	3149.08	36.92
12/02/80	3144.17	41.83
02/04/81	3143.17	42.83
08/07/81	3148.92	37.08
11/30/81	3145.67	40.33
02/24/82	3145.83	40.17
05/25/82	3150.42	35.58
09/20/82	3147.75	38.25
02/16/83	3144.50	41.50
11/28/83	3143.17	42.83
04/23/84	3143.83	42.17
10/24/84	3143.67	42.33
01/07/85	3140.50	45.50
02/26/85	3140.00	46.00
03/22/85	3140.50	45.50
04/27/85	3143.33	42.67
05/22/85	3148.00	38.00
06/25/85	3148.00	38.00
07/16/85	3146.33	39.67
08/21/85	3145.75	40.25
09/24/85	3146.08	39.92
10/24/85	3144.42	41.58
11/25/85	3143.00	43.00
12/25/85	3142.67	43.33
01/22/86	3142.42	43.58
02/18/86	3141.50	44.50
03/10/86	3143.25	42.75
03/13/86	3143.33	42.67
04/23/86	3144.58	41.42
05/21/86	3146.50	39.50
06/24/86	3148.50	37.50
07/24/86	3147.00	39.00
08/23/86	3144.75	41.25
09/24/86	3144.83	41.17
10/21/86	3143.00	43.00
11/29/86	3141.00	45.00
12/16/86	3140.33	45.67
01/26/87	3139.33	46.67
02/21/87	3138.83	47.17
03/23/87	3139.08	46.92
04/30/87	3141.42	44.58
05/27/87	3146.75	39.25
06/21/87	3147.17	38.83
07/21/87	3145.58	40.42
08/22/87	3143.92	42.08
09/23/87	3142.58	43.42
10/27/87	3141.33	44.67
11/21/87	3140.25	45.75

(continued above)

MWC21
E. Central 300blk. in alley
Elevation = 3205

Date	SWL	Depth to GWL (static)
12/13/75	3140.00	65.00
02/25/77	3135.83	69.17
05/09/77	3135.75	69.25
07/06/77	3141.33	63.67
09/14/77	3139.08	65.92
12/09/77	3136.58	68.42
01/10/78	3137.00	68.00
03/07/78	3135.83	69.17
07/18/78	3144.33	60.67
11/30/78	3137.00	68.00
03/12/79	3134.00	71.00
08/11/79	3140.50	64.50
01/11/80	3135.50	69.50
08/11/80	3141.67	63.33
12/03/80	3136.50	68.50
02/05/81	3134.93	70.07
08/11/81	3140.42	64.58
11/25/81	3139.33	65.67
02/18/82	3136.75	68.25
06/02/82	3142.00	63.00
09/13/82	3140.00	65.00
02/25/83	3137.50	67.50
11/30/83		
04/19/84		
06/14/84		
10/26/84	3136.00	69.00
01/07/85	3132.50	72.50
02/28/85	3131.50	73.50
03/21/85	3131.33	73.67
04/29/85	3133.17	71.83
05/22/85	3135.42	69.58
06/29/85	3137.42	67.58
07/15/85	3136.42	68.58
08/19/85	3136.33	68.67
09/23/85	3137.58	67.42
10/21/85	3136.83	68.17
11/25/85	3135.33	69.67
12/13/85	3134.50	70.50
01/23/86	3134.00	71.00
02/19/86	3132.75	72.25
03/10/86	3134.08	70.92
03/13/86	3134.42	70.58
03/17/86	3134.58	70.42
04/23/86	3135.75	69.25
05/23/86	3136.00	69.00
06/23/86	3139.50	65.50
07/29/86	3136.67	68.33
08/23/86	3134.00	71.00
09/23/86	3135.75	69.25
10/22/86	3134.75	70.25
11/29/86	3132.83	72.17
12/16/86	3132.17	72.83
01/27/87	3130.83	74.17
02/23/87	3130.25	74.75
03/25/87	3130.00	75.00
04/05/87	3130.42	74.58
05/21/87	3132.83	72.17
06/21/87	3137.00	68.00
07/22/87	3134.58	70.42
08/23/87	3134.17	70.83
09/24/87	3132.83	72.17
10/28/87	3132.25	72.75
11/21/87	3131.33	73.67

(continued above)

MWC22
Intermountain
Elevation = 3200 (approx.)

Date	SWL	Depth to GW (static)
02/25/77	3166.67	33.33
05/18/77	3171.17	28.83
09/14/77	3169.58	30.42
12/09/77	3170.17	29.83
01/11/78	3167.50	32.50
03/01/78	3166.58	33.42
05/27/78	3174.00	26.00
07/17/78	3175.58	24.42
11/29/78	3166.75	33.25
03/12/79	3166.00	34.00
08/09/79	3172.17	27.83
01/10/80	3164.67	35.33
08/11/80	3172.67	27.33
12/03/80	3167.33	32.67
02/04/81	3166.25	33.75
08/10/81	3173.00	27.00
02/17/82	3168.00	32.00
06/02/82	3175.50	24.50
09/17/82	3171.50	28.50
02/25/83	3167.67	32.33
11/30/83	3165.25	34.75
04/17/84	3165.17	34.83
06/12/84	3172.50	27.50
10/17/84	3166.50	33.50
01/07/85	3162.75	37.25
02/26/85	3162.33	37.67
03/21/85	3162.75	37.25
04/29/85	3166.08	33.92
05/22/85	3169.75	30.25
06/25/85	3170.67	29.33
07/15/85	3168.58	31.42
08/21/85	3168.33	31.67
09/24/85	3168.92	31.08
10/23/85	3167.25	32.75
11/18/85	3166.17	33.83
12/11/85	3165.42	34.58
01/22/86	3165.50	34.50
02/18/86	3164.00	36.00
03/10/86	3165.83	34.17
04/22/86	3167.42	32.58
05/21/86	3169.33	30.67
06/25/86	3171.25	28.75
07/22/86	3169.33	30.67
08/23/86	3166.75	33.25
09/23/86	3167.00	33.00
10/22/86	3165.33	34.67
11/26/86	3163.58	36.42
12/16/86	3162.33	37.67

(continued above)

Date	SWL	Depth to GW (static)
01/27/87	3161.75	38.25
02/23/87	3161.00	39.00
03/23/87	3161.08	38.92
04/23/87	3162.75	37.25
05/21/87	3168.58	31.42
06/23/87	3169.75	30.25
07/21/87	3167.92	32.08
08/24/87	3166.00	34.00
09/24/87	3164.67	35.33
10/27/87	3163.67	36.33
11/17/87	3163.08	36.92

MWC23
Pattee Cr.
Elevation = 3190 ft.

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (g.p.m.)
06/04/82			69	250
09/13/82			70	250
02/16/83			71	250
11/30/83			72	260
04/17/84			74	255
06/14/84			70	
10/27/84			71	270
01/09/85			74	260
02/27/85			74	250
03/21/85			74	260
04/23/85			74	250
05/22/85			72	250
06/29/85			72	250
07/16/85			74	250
08/22/85			72	250
09/23/85			71	250
10/21/85			72	250
11/21/85	3119	71	72	250
12/13/85	3118	72	73	250
01/23/86	3118	72	73	250
02/21/86	3115	75	76	250
03/20/86	3117	73	74	250
04/23/86	3119	71	72	250
05/20/86	3119	71	72	250
06/23/86	3120	70	72	240
07/22/86	3119	71	72	220
08/23/86	3118	72	73	220
09/23/86	3119	71	72	220
10/22/86	3118	72	73	225
11/24/86	3118	72	74	250
12/16/86	3118	72	74	220
01/27/87	3117	73	75	225
02/21/87	3117	73	75	220
03/24/87	3117	73	75	220
04/23/87	3117	73	75	220
05/21/87	3118	72	73	230
06/21/87	3119	71	72	225
07/10/87	3129.00	61.00	63	200
07/22/87	3126.00	64.00	65	210
08/20/87	3126.00	64.00	66	200
09/23/87	3125.00	65.00	68	200
10/28/87	3126	64	69	210
11/21/87	3125	65	69	200

MWC26
Benton Ave. West of Russell
Elevation = 3180

Date	SWL	Depth to GW (static)
11/02/75	3135.50	44.50
02/27/77	3130.75	49.25
05/18/77	3133.00	47.00
07/05/77	3136.50	43.50
08/29/77	3133.58	46.42
12/09/77	3131.67	48.33
01/10/78	3131.42	48.58
03/08/78	3130.67	49.33
05/25/78	3137.00	43.00
07/18/78	3139.00	41.00
12/01/78	3131.75	48.25
03/14/79	3130.67	49.33
08/09/79	3136.83	43.17
01/09/80	3130.33	49.67
08/11/80	3136.58	43.42
12/02/80	3132.00	48.00
02/05/81	3130.83	49.17
08/10/81	3136.00	44.00
11/23/81	3133.33	46.67
02/17/82	3132.00	48.00
06/02/82	3137.58	42.42
09/17/82	3135.17	44.83
02/16/83	3131.75	48.25
11/30/83	3130.67	49.33
04/17/84	3129.75	50.25
06/14/84	3135.33	44.67
10/27/84	3131.17	48.83
01/07/85	3128.58	51.42
02/27/85	3127.75	52.25
03/20/85	3127.58	52.42
04/27/85	3129.67	50.33
05/23/85	3132.00	48.00
06/29/85	3134.00	46.00
07/16/85	3132.33	47.67
08/22/85	3132.33	47.67
09/24/85	3133.42	46.58
10/22/85	3132.25	47.75
11/19/85	3131.08	49.92
12/12/85	3130.17	49.83
01/23/86	3129.58	50.42
02/19/86	3129.00	51.00
03/10/86	3130.58	49.42
04/23/86	3131.50	48.50
05/21/86	3131.83	48.17
06/23/86	3135.17	44.83
07/29/86	3133.42	46.58
08/25/86	3131.33	48.67

Date	SWL	Depth (st
09/25/86	3132.17	
10/22/86	3130.83	
11/24/86	3129.17	
12/16/86	3128.50	
01/26/87	3127.25	
02/21/87	3126.92	
03/23/87	3126.92	
04/23/87	3127.33	
05/23/87	3131.42	
06/21/87	3133.83	
07/21/87	3131.75	
08/23/87	3130.75	
09/23/87	3129.92	
10/28/87	3128.83	
11/21/87	3128.08	

(continued above)

MWC27
26th Ave.
Elevation = 3170

Date	SWL	Depth to GW (static)
11/02/75	3134.00	36.00
02/27/77	3130.17	39.83
05/09/77	3131.83	38.17
07/05/77	3136.00	34.00
08/29/77	3134.67	35.33
10/22/77	3132.00	38.00
12/13/77	3130.75	39.25
01/10/78	3130.50	39.50
03/07/78	3130.25	39.75
05/25/78	3136.08	33.92
07/17/78	3137.00	33.00
12/01/78	3131.33	38.67
03/14/79	3130.67	39.33
08/11/79	3135.00	35.00
01/09/80	3128.83	41.17
08/11/80	3136.17	33.83
11/25/80	3131.50	38.50
02/06/81	3137.00	33.00
08/06/81	3137.00	33.00
11/23/81	3132.00	38.00
02/17/82	3131.17	38.83
05/27/82	3136.50	33.50
09/13/82	3135.25	34.75
02/16/83	3130.83	39.17
02/28/83	3130.00	40.00
04/17/84	3129.33	40.67
06/14/84	3135.50	34.50
10/24/84	3130.33	39.67
01/07/85	3127.42	42.58
02/26/85	3127.17	42.83
03/22/85	3127.50	42.50
04/27/85	3129.58	40.42
05/23/85	3134.08	35.92
06/25/85	3134.58	35.42
07/17/85		
08/23/85	3132.75	37.25
09/24/85	3132.83	37.17
10/22/85	3131.00	39.00
11/25/85	3129.75	40.25
12/12/85	3129.33	40.67
01/22/86	3128.92	41.08
02/18/86	3128.33	41.67
03/20/86	3130.25	39.75
04/23/86	3130.17	39.83
05/20/86	3132.67	37.33
06/24/86	3135.33	34.67
07/24/86	3133.75	36.25
08/23/86	3131.92	38.08
09/24/86	3131.75	38.25
10/21/86	3129.83	40.17
11/26/86	3128.33	41.67
12/16/86	3127.67	42.33
01/26/87	3126.67	43.33
02/21/87	3126.33	43.67
03/23/87	3126.42	43.58
04/30/87	3128.00	42.00
05/24/87	3133.33	36.67
06/21/87	3134.08	35.92
07/21/87	3132.75	37.25
08/23/87	3131.33	38.67
09/23/87	3130.08	39.92
10/27/87	3128.33	41.67
11/21/87	3127.42	42.58

(continued above)

MWC28
Desmet Industrial
Elevation = 3200 (approx.)

Date	SWL	Depth to GW (static)
11/02/75		
02/28/77		
05/18/77	3110.75	89.25
07/03/77	3116.67	83.33
09/14/77	3112.67	87.33
10/21/77	3109.92	90.08
12/13/77	3108.00	92.00
01/11/78	3108.00	92.00
02/28/78	3107.25	92.75
04/30/78	3108.00	92.00
07/23/78	3120.83	79.17
12/01/78	3115.00	85.00
03/12/79	3104.17	95.83
08/10/79	3116.67	83.33
01/10/80	3111.58	88.42
08/11/80	3126.33	73.67
12/03/80	3116.00	84.00
08/07/81	3125.58	74.42
11/30/81	3116.00	84.00
02/25/82	3113.00	87.00
05/24/82	3120.50	79.50
09/20/82	3121.42	78.58
03/25/83	3112.17	87.83
12/07/83	3115.00	85.00
04/19/84	3114.83	85.17
06/12/84	3120.50	79.50
10/31/84	3114.67	85.33
01/07/85	3110.17	89.83
02/28/85	3108.00	92.00
03/28/85	3108.67	91.33
04/29/85		
07/01/85	3119.83	80.17
07/15/85	3117.67	82.33
08/20/85	3108.00	92.00
09/24/85	3113.50	86.50
10/21/85	3113.00	87.00
11/19/85	3111.25	88.75
12/17/85	3108.67	91.33
01/27/86	3108.83	91.17
02/19/86	3109.00	91.00
03/23/86	3115.33	84.67
04/23/86	3107.75	92.25
05/20/86	3115.67	84.33
06/26/86	3127.00	73.00
07/28/86	3116.50	83.50
08/22/86	3118.75	81.25
10/05/86	3116.42	83.58
10/24/86	3109.67	90.33
11/25/86	3110.58	89.42
12/18/86	3111.58	88.42
01/27/87	3111.75	88.25
02/24/87	3111.00	89.00
03/25/87	3110.00	90.00
05/05/87	3114.67	85.33
05/22/87	3122.00	78.00
06/24/87	3118.50	81.50
07/23/87	3116.75	83.25
08/20/87	3115.08	84.92
09/29/87	3112.17	87.83
10/30/87	3109.92	90.08
11/23/87	3108.58	91.42

(continued above)

MWC30
Bank and Pattee St. (Substation lot)
Elevation = 3180.4

Date	SWL	Depth to GW (static)
02/26/76	3147.23	33.17
02/25/77	3145.98	34.42
05/10/77	3148.73	31.67
05/31/77	3151.48	28.92
06/07/77	3151.65	28.75
09/14/77	3147.98	32.42
12/09/77	3146.15	34.25
01/12/78	3147.15	33.25
03/01/78	3145.73	34.67
07/26/78	3153.57	26.83
11/29/78	3145.07	35.33
03/16/79	3145.90	34.50
08/08/79	3149.90	30.50
01/11/80	3143.15	37.25
08/13/80	3150.57	29.83
12/04/80	3146.40	34.00
02/06/81	3145.48	34.92
08/11/81	3151.90	28.50
12/01/81	3147.90	32.50
02/18/82	3146.07	34.33
06/02/82	3154.90	25.50
09/17/82	3150.07	30.33
02/15/83	3146.40	34.00
08/24/83	3147.73	32.67
11/28/83	3143.07	37.33
04/23/84	3144.07	36.33
06/15/84	3151.40	29.00
01/11/85	3140.73	39.67
02/27/85	3137.40	43.00
03/22/85		
04/24/85	3141.40	39.00
05/21/85		
06/25/85		
07/15/85		
08/20/85		
09/23/85		
10/23/85		
11/18/85	3143.40	37.00
12/11/85	3143.40	37.00
01/21/86	3143.40	37.00
02/18/86	3141.40	39.00
03/05/86	3144.40	36.00
03/11/86	3142.40	38.00
03/13/86	3142.40	38.00
04/23/86	3143.40	37.00
05/22/86	3145.40	35.00
06/23/86	3143.40	37.00
07/22/86	3145.40	35.00
08/23/86	3144.40	36.00
09/25/86	3141.40	39.00
10/21/86	3141.40	39.00
11/25/86	3138.40	42.00
12/19/86	3137.40	43.00
01/26/87	3137.40	43.00
02/23/87	3136.40	44.00
03/23/87	3137.40	43.00
04/29/87	3138.40	42.00
05/22/87	3144.40	36.00
06/22/87	3145.40	35.00
07/20/87	3143.40	37.00
08/20/87	3142.40	38.00
09/25/87	3140.40	40.00
10/27/87	3140.40	40.00
11/23/87	3138.40	42.00

(continued above)

MWC31
Kiwanis and Clay st.
Elevation = 3185.7

Date	SWL	Depth to GW (static)
05/31/77	3155.70	30.00
07/06/77	3153.12	32.58
09/14/77	3150.70	35.00
12/09/77	3149.70	36.00
01/12/78	3150.53	35.17
03/01/78	3149.53	36.17
07/26/78	3156.53	29.17
11/29/78	3149.20	36.50
03/16/79	3150.45	35.25
08/08/79	3152.70	33.00
01/11/80	3146.87	38.83
08/13/80	3153.70	32.00
12/04/80	3146.70	39.00
02/06/81	3144.12	41.58
08/11/81	3154.87	30.83
12/01/81	3150.70	35.00
02/18/82	3149.03	36.67
06/02/82	3159.70	26.00
09/17/82	3153.37	32.33
03/25/83	3149.70	36.00
08/24/83	3150.87	34.83
11/28/83		
04/23/84		
06/15/84		
10/29/84		
01/11/85	3143.37	42.33
02/27/85	3142.70	43.00
03/22/85	3143.03	42.67
04/29/85	3145.87	39.83
05/21/85		
06/25/85		
07/15/85		
08/20/85	3148.95	36.75
09/23/85	3149.37	36.33
10/23/85	3148.12	37.58
11/18/85	3146.87	38.83
12/11/85	3146.70	39.00
01/23/86	3146.78	38.92
02/18/86	3144.95	40.75
03/11/86	3146.53	39.17
03/13/86	3146.62	39.08
03/17/86	3147.62	38.08
04/23/86	3148.12	37.58
05/23/86	3148.37	37.33
06/25/86	3152.70	33.00
07/28/86	3150.20	35.50
08/23/86	3148.03	37.67
09/25/86	3147.03	38.67
10/24/86	3146.70	39.00
11/25/86	3143.45	42.25
12/17/86	3142.03	43.67
01/26/87	3141.95	43.75
02/23/87	3140.70	45.00
03/25/87	3141.70	44.00
05/07/87	3147.20	38.50
05/22/87	3149.87	35.83
06/23/87	3150.37	35.33
07/20/87	3148.20	37.50
08/20/87	3146.20	39.50
09/28/87	3145.03	40.67
10/29/87	3145.28	40.42
11/23/87	3143.03	42.67

(continued above)

MWC32
Arthur and So. 5th E. (in alley)
Elevation = 3203.7

Date	SWL	Depth to GW (static)
07/06/77	3155.95	47.75
09/14/77	3152.62	51.08
12/09/77	3150.78	52.92
12/13/77	3150.53	53.17
01/11/78	3151.87	51.83
03/07/78	3150.03	53.67
07/26/78	3159.03	44.67
11/29/78	3149.20	54.50
03/21/79	3151.37	52.33
08/11/79	3154.20	49.50
01/11/80	3147.87	55.83
08/14/80	3154.87	48.83
12/05/80	3150.70	53.00
02/06/81	3150.37	53.33
08/11/81	3155.87	47.83
12/01/81	3152.12	51.58
02/18/82	3149.87	53.83
06/02/82	3159.45	44.25
09/17/82	3154.20	49.50
03/02/83	3150.62	53.08
08/24/83	3151.53	52.17
11/30/83		
01/23/84		
06/15/84		
10/26/84	3155.03	48.67
01/09/85	3142.37	61.33
02/21/85	3142.20	61.50
02/26/85	3142.03	61.67
03/21/85	3142.28	61.42
04/23/85		
05/21/85		
06/25/85		
07/15/85		
08/20/85		
09/25/85		
10/23/85	3148.70	55.00
11/25/85	3147.53	56.17
12/12/85	3147.70	56.00
01/23/86	3147.70	56.00
02/19/86	3145.87	57.83
03/10/86	3148.20	55.50
03/13/86	3147.70	56.00
04/24/86	3149.20	54.50
05/23/86	3151.87	51.83
06/24/86	3152.20	51.50
07/24/86	3149.70	54.00
08/23/86	3147.20	56.50
09/23/86	3148.37	55.33
10/21/86	3146.03	57.67
10/26/86	3143.87	59.83
12/17/86	3142.78	60.92
01/26/87	3142.53	61.17
02/23/87	3141.37	62.33
03/24/87	3141.12	62.58
05/05/87	3146.37	57.33
05/21/87	3149.62	54.08
06/23/87	3150.45	53.25
07/23/87	3149.70	54.00
08/20/87	3146.70	57.00
09/25/87	3145.45	58.25
10/27/87	3144.95	58.75
11/23/87	3143.95	59.75

(continued above)

MWC33
Gerald St
Elevation = 3199.5

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (g.p.m.)
12/09/77	3144.83	54.67		
01/11/78	3145.50	54		
03/07/78	3143.75	55.75		
07/18/78	3153.25	46.25	50.17	3650
11/29/78	3144.75	54.75	59	3700
03/21/79	3145.50	54	58.33	3650
08/11/79	3148.67	50.83	54.58	3700
01/11/80	3142.58	56.92	61	3600
08/13/80	3149.50	50	55	3700
12/04/80	3145.17	54.33	58.08	3700
08/11/81	3150.42	49.08	53.17	3700
02/06/81	3145.29	54.21		3620
08/11/81	3150.42	49.08	53.17	3700
11/25/81	3146.83	52.67		
02/08/82	3144.83	54.67		
06/02/82	3152.17	47.33	50.33	3700
09/17/82	3148.67	50.83	56.00	3700
02/15/83	3144.83	54.67		
08/24/83	3146.83	52.67		
11/28/83	3140.83	58.67		
04/23/84	3141.83	57.67	61.17	3600
06/13/84	3150.67	48.83		
10/26/84	3141.00	58.50		
01/10/85	3137.75	61.75	65.00	3700
02/26/85	3137.25	62.25	65.83	3610
03/21/85	3137.42	62.08	65.75	3650
04/23/85	3140.83	58.67	62.42	3600
05/21/85	3145.92	53.58		
06/25/85	3146.92	52.58	58.42	3700
07/15/85			60.58	3650
08/19/85	3144.83	54.67	58.58	3600
09/23/85	3145.50	54.00	57.67	3610
10/23/85	3144.08	55.42	59	3620
11/19/85	3143.50	56.00	60.25	3600
12/12/85	3141.50	58.00	60.75	3600
01/23/86	3141.83	57.67	60.75	3600
02/19/86	3140.83	58.67	62.67	3600
03/10/86	3142.50	57.00	61.08	3700
04/22/86	3144.00	55.50	59	3600
05/22/86	3146.17	53.33	57	3600
06/23/86	3147.92	51.58	55.5	3700
07/24/86	3145.50	54.00	57.67	3600
08/23/86	3143.17	56.33	60.17	3650
09/23/86	3143.67	55.83	59.58	3600
10/21/86	3142.00	57.50	61.25	3600
10/26/86	3140.00	59.50	63	3600
12/17/86	3138.92	60.58	64.33	3600
01/26/87	3138.42	61.08	64.75	3600
02/23/87	3137.42	62.08	65.83	3600
03/24/87	3137.33	62.17	65.5	3600
04/30/87	3140.33	59.17	62.25	3600
05/21/87	3145.08	54.42	58.25	3600
06/23/87	3146.25	53.25	57	3600
07/23/87	3144.83	54.67	58.42	3600
08/20/87	3142.58	56.92	60.58	3600
09/25/87	3141.00	58.5	62.33	3750
10/27/87	3140.33	59.17	62.67	3600
11/17/87	3139.58	59.92	63.5	3600

(continued above)

Montana Water Co. data
MWC34
Maurice Ave. and 4th
Elevation = 3194.7

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (g.p.m.)
05/22/78	3160.70	34	38	3600
07/26/78	3160.28	34.42	37.42	3700
11/29/78	3152.53	42.17	47.5	3700
03/21/79	3154.87	39.83	43.58	3700
08/11/79	3157.70	37	40.83	3600
01/11/80	3150.28	44.42	48.58	3750
08/14/80	3157.03	37.67	41.83	3800
12/05/80	3153.20	41.5	46	3800
02/06/81	3151.87	42.83	45.42	3650
08/11/81	3156.70	38.00	40.42	3700
11/25/81	3154.45	40.25	44.00	3650
02/08/82	3152.37	42.33	46.00	3620
06/02/82	3161.37	33.33	36.83	3750
09/17/82	3156.45	38.25	42.00	3600
03/02/83	3152.95	41.75		7000
08/24/83	3154.62	40.08	44.42	3650
11/30/83			49.42	3600
04/23/84			48.00	
06/15/84	3152.70	42.00	48.00	
10/29/84			51	6900
01/10/85	3143.70	51.00	51.00	7000
02/21/85	3146.70	48.00	54.00	7000
02/26/85	3145.70	49.00	55	7000
03/21/85			55.00	7000
04/23/85			52.00	7000
05/21/85			50.00	7000
06/25/85			48.00	7100
07/15/85			49	6800
08/20/85			48	7000
09/23/85	3151.70	43.00	47	6600
10/23/85			49	7000
11/18/85	3150.70	44.00	50	7000
12/12/85	3149.70	45.00	51	7000
01/23/86	3149.70	45.00	52	7000
02/19/86	3147.70	47.00	53	7000
03/05/86	3148.70	46	54	7000
03/10/86	3149.70	45.00	51	6800
03/13/86	3149.70	45	50	7000
03/17/86	3149.70	45	50	7000
04/22/86	3151.70	43.00	48	7000
05/22/86	3153.70	41.00	47	7100
06/25/86			46	6900
07/24/86			48	6900
08/23/86			51	6900
09/23/86	3149.70	45.00	50	7000
10/24/86	3147.70	47.00	53	7000
11/29/86	3146.70	48.00	54	6800
12/19/86			56	6900
01/26/87	3144.70	50.00	55	6990
02/21/87	3143.70	51.00	57	6900
03/29/87	3143.70	51.00	57	6900
04/30/87	3149.70	45.00	53	6900
05/21/87	3156.70	38.00	48	7000
06/21/87	3151.70	43.00	48	6900
07/27/87	3150.70	44	47	6900
08/24/87	3147.70	47	51	6900
09/25/87	3146.70	48	53	6900
10/27/87	3146.70	48	53	6900
11/21/87	3146.70	48	54	6900

(continued above)

MWC35
Southgate Mall
Elevation = 3170 ft.

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (g.p.m.)
12/01/78	3129.67	40.33	45.17	1850
03/14/79	3128.75	41.25	47.33	1850
08/11/79	3134.00	36	42.17	2200
01/10/80	3127.42	42.58	47.75	1950
08/11/80	3133.50	36.5	42.33	2000
12/02/80	3129.00	41	46	2000
02/05/81	3127.83	42.17	47.56	1990
08/07/81	3133.17	36.83	42.67	2150
11/23/81	3130.17	39.83	44.67	1850
02/24/82	3129.67	40.33	45.67	1950
05/27/82	3134.00	36.00	41.00	1850
09/14/82	3132.17	37.83	43.00	1900
02/16/83	3128.83	41.17	47.50	1750
11/30/83	3128.00	42.00		
04/17/84	3127.50	42.50	47.67	1900
06/14/84	3133.00	37.00	42.70	1950
10/25/84	3129.42	40.58	45.00	
01/07/85	3126.00	44.00	49.50	2450
02/27/85	3124.17	45.83	50.17	2400
03/20/85	3125.17	44.83	50.25	2450
04/27/85	3127.00	43.00	48.42	2400
06/29/85	3131.42	38.58	44.83	2500
07/17/85			46.42	2500
08/22/85	3130.33	39.67	45.67	2350
09/24/85	3130.67	39.33	45.33	2500
10/22/85	3129.17	40.83	45.83	2300
11/19/85	3128.33	41.67	47.00	2450
12/11/85	3127.50	42.50	47.67	2350
01/22/86	3127.00	43.00	48.42	2350
02/19/86	3126.42	43.58	49.00	2400
03/10/86	3128.00	42.00	47.42	2300
04/23/86	3128.75	41.25	46.58	2400
05/21/86	3129.50	40.50	46.00	2450
06/24/86	3133.00	37.00	42.08	2500
07/29/86	3130.92	39.08	44.83	2500
08/23/86	3129.00	41.00	46.67	2500
09/24/86	3129.67	40.33	45.08	2400
10/21/86	3128.00	42.00	47.42	2400
11/24/86	3126.58	43.42	48.91	2400
12/16/86	3125.83	44.17	49.50	2400
01/26/87	3124.75	45.25	50.67	2400
02/21/87	3124.58	45.42	50.75	2400
03/25/87	3124.67	45.33	51.00	2400
04/30/87	3125.25	44.75	50.08	2350
05/23/87	3129.33	40.67	46.25	2500
06/21/87	3131.50	38.50	43.91	2300
07/20/87	3129.58	40.42	45.75	2450
08/23/87	3128.42	41.58	47	2500
09/29/87	3127.25	42.75	48	2400
10/28/87	3126.25	43.75	49.25	2500
11/21/87	3125.50	44.50	49.75	2400

MWC36
Dickens
Elevation = 3192 ft.

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (g.p.m.)
12/04/80	3135.33	56.67	60	900
08/10/81	3138.83	53.17	58.50	1040
11/25/81	3135.00	57.00	59.50	820
02/17/82	3133.33	58.67	61.00	800
05/25/82	3140.33	51.67	56.00	980
09/17/82	3138.00	54.00	60.00	900
02/17/83	3135.00	57.00	62.00	760
11/30/83			62.00	870
04/18/84			64.00	950
06/12/84			56.00	1000
10/27/84	3138.00	54.00		
01/07/85	3131.00	61.00	64.00	850
02/26/85	3130.00	62.00	65.00	825
03/22/85	3130.00	62.00	65.00	850
04/29/85	3134.00	58.00	62.00	900
05/21/85	3135.00	57.00	60.00	1000
06/25/85	3139.00	53.00	56.00	1050
07/15/85	3137.00	55.00	58.00	1050
08/20/85	3137.00	55.00	58.00	920
09/23/85	3138.00	54.00	56.00	950
10/23/85	3136.00	56.00	58.00	900
11/18/85	3135.00	57.00	60.00	900
12/11/85	3134.00	58.00	61.00	900
01/21/86	3134.00	58.00	62.00	900
02/19/86	3133.00	59.00	64.00	850
03/13/86	3136.00	56.00	62.00	900
03/20/86	3137.00	55.00	60.00	900
04/22/86	3136.00	56.00	59.00	950
05/22/86	3138.00	54.00	57.00	950
06/24/86	3139.00	53.00	57.00	1050
07/22/86	3139.00	53.00	56.00	1050
08/21/86	3137.00	55.00	58.00	960
09/23/86	3135.00	57.00	60.00	1000
10/21/86	3136.00	56.00	61.00	950
11/25/86	3133.00	59.00	63.00	900
12/18/86	3130.00	62.00	65.00	900
01/26/87	3130.00	62.00	65.00	850
02/21/87	3129.00	63.00	65.00	900
03/23/87	3130.00	62.00	65.00	900
04/23/87	3130.00	62.00	64.00	900
05/22/87	3137.00	55.00	58.00	1000
06/21/87	3138.00	54.00	57.00	950
07/20/87	3136.00	56.00	58	950
08/20/87	3135.00	57.00	60	950
09/24/87	3134.00	58	63	1000
10/23/87	3133.00	59.00	62	900
11/17/87	3131.00	61.00	63	900

MWC37
So. Ave.
Elevation = 3200 (approx.)

Date	SWL	Depth to GW (static)	Depth to GW (pumping)	Discharge (GPM)
10/30/84	3130.00	70.00		
01/11/85	3136.00	64.00		
02/21/85	3135.00	65.00		
02/27/85	3134.00	66.00		
03/21/85	3135.00	65.00		
04/23/85				
05/22/85				
06/29/85				
07/16/85				
08/22/85	3140.00	60.00		
09/24/85				
10/21/85	3140.00	60.00		
11/21/85	3139.00	61.00		
12/12/85	3137.00	63.00		
01/23/86	3136.00	64.00		
02/24/86	3136.00	64.00		
03/20/86	3137.00	63.00		
04/23/86	3138.00	62.00		
05/21/86	3138.00	62.00		
06/24/86	3143.00	57.00		
07/28/86	3140.00	60.00		
08/23/86	3138.00	62.00		
09/23/86	3138.00	62.00		
10/22/86	3137.00	63.00		
11/26/86	3136.00	64.00		
12/16/86	3136.00	64.00		
01/27/87	3134.00	66.00		
02/21/87	3134.00	66.00		
03/24/87	3134.00	66.00		
04/30/87	3133.00	67.00		
05/21/87	3137.00	63.00		
06/24/87	3140.00	60.00		
07/20/87	3138.00	62.00		
08/25/87	3137.00	63.00		
09/23/87	3136.00	64.00		
10/29/87	3136.00	64.00		
11/23/87	3135.00	65.00		

SECTION 3

P Wells

P-1
PEW Construction
3350 Mullan Road
Elevation = 3171.38
Well depth = 98.5

Date	SWL	Depth to GW
06/20/85	30.65	3140.73
07/23/85	33.57	3137.81
09/03/85	34.54	3136.84
11/04/85	35.14	3136.24
12/13/85	36.60	3134.78
01/14/86	36.93	3134.45

P-3
E.A. Roberts
3660 Mullan Road
Elevation = 3167.10
Well depth = 68.6

Date	SWL	Depth to GW
06/20/85	26.73	3140.37
07/23/85	29.68	3137.42
09/03/85	30.69	3136.41
11/04/85	31.23	3135.87
12/13/85	32.67	3134.43
01/14/86	33.00	3134.10
02/09/86	33.98	3133.12
03/06/86	32.22	3134.88
05/06/86	29.55	3137.55

P-4
Bud Lake
3800 Mullan Road
Elevation = 3165.32
Well depth = 69

Date	SWL	Depth to GW
06/20/85	25.88	3139.44
07/23/85	28.67	3136.65
09/03/85	30.70	3134.62
11/04/85	30.12	3135.20
12/13/85	31.60	3133.72
01/14/86	31.94	3133.38

P-5
Parks
Elevation = 3161.84
Well depth = 55.5

Date	SWL	Depth to GW
06/20/85	20.79	3141.05

P-8
Bob Edwards
Elevation = 3163.37
Well depth = 65

Date	SWL	Depth to GW
06/21/85	24.68	3138.69
07/23/85	27.42	3135.95
09/03/85	28.44	3134.93
11/04/85	28.90	3134.47
12/13/85	30.27	3133.10
01/14/86	30.62	3132.75
02/19/86	31.55	3131.82
03/06/86	29.85	3133.52
05/06/86	27.40	3135.97

P-9
Production Credit Association
Reserve Street
Elevation = 3168.99
Well depth = 101

Date	SWL	Depth to GW
06/21/85	27.75	3141.24
07/23/85	30.81	3138.18
09/03/85	31.98	3137.01
11/04/85	32.33	3136.66
12/13/85	33.99	3135.00
01/14/86	34.33	3134.66

P-10
Land Bank
Reserve Street
Elevation = 3166.93
Well depth = 100

Date	SWL	Depth to GW
06/20/85	25.58	3141.35
07/23/85	28.71	3138.22
09/03/85	29.81	3137.12
11/05/85	30.20	3136.73
02/19/86	35.30	3131.63
05/06/86	28.65	3138.78

P-15
Dorazi
Elevation = 3169.89
Well depth = 70

Date	SWL	Depth to GW
06/20/85	27.44	3142.45
07/23/85	37.05	3132.84
09/03/85	33.26	3136.63
12/12/85	36.18	3133.71
01/14/86	36.25	3133.64

P-11
M.A.R.S.
2701 Reserve Street
Elevation = 3169.54
Well depth = 119

Date	SWL	Depth to GW
06/20/85	27.85	3141.69
07/23/85	31.10	3138.44
09/03/85	32.43	3137.11
11/05/85	32.62	3136.92
12/05/85	34.25	3135.92
01/14/86	34.70	3134.84
03/06/86	33.99	3135.55

P-17
El Mar Trailer Court
Elevation = 3174.71
Well depth = 79

Date	SWL	Depth to GW
06/20/85	33.40	3141.31
07/08/85	36.09	3138.62
09/03/85	38.75	3135.96
11/04/85	36.81	3137.90
12/12/85	38.85	3135.86
01/13/86	39.73	3134.98
02/19/86	40.68	3134.03
03/16/86	39.61	3155.10

P-18 (#3)
El Mar
Main Office - Tina Avenue
Elevation = 3175.18
Well depth = 76'2"
Well yield = 125 gpm
Aquifer material: Clay and Gravel
Well completed: 7/21/85
Pumping water level = 65

Date	SWL	Depth to GW
06/20/85	30.25	3144.93
07/08/85	34.53	3140.65
07/23/85	38.90	3136.28
09/03/85	38.52	3136.62
11/04/85	41.37	3133.81
02/19/86	42.50	3132.68

P-19
State Highway Department
Reserve Street & Hwy 10W
Elevation = 3184.08
Well depth = 69
Well yield = 25 gpm
Well completed: 12/13/71
Aquifer material: Sand
Pumping water level = 46.8

Date	SWL	Depth to GW
06/21/85	39.43	3144.65
07/08/85	42.01	3142.07
07/23/85	44.38	3139.70
09/03/85	46.15	3137.93
11/04/85	44.91	3139.17
12/12/85	47.20	3136.88
01/13/86	48.30	3135.78
02/19/86	49.25	3134.83
03/16/86	47.39	3136.69
05/06/86	43.55	3140.53

P-21
Elmar
Elevation = 3186.44
Well depth = 135

Date	SWL	Depth to GW
06/20/85	52.98	3133.46
07/08/85	57.59	3128.85
07/23/85	59.34	3127.10
09/03/85	49.01	3137.43
11/04/85	47.37	3139.07
12/12/85	49.50	3136.94
01/13/86	50.83	3135.61
02/19/86	53.25	3133.19
03/06/86	51.43	3135.01
05/06/86	45.70	3140.74

P-22
Ace Auto
Elevation = 3181.08
Well depth = 56

Date	SWL	Depth to GW
06/20/85	33.8	3147.28

P-23
4 B's
Elevation = 3180.46
Well depth = 57.5

Date	SWL	Depth to GW
06/20/85	32.90	3147.56
07/08/85	38.27	3142.19
07/23/85	40.27	3140.19
09/03/85	42.22	3138.24
11/04/85	41.12	3139.34
01/13/86	44.67	3135.49

P-24
4 B's - Imperial Foods
Elevation = 3182.82
Well depth = 57

Date	SWL	Depth to GW
06/20/85	35.55	3147.27
07/08/85	42.18	3140.64
07/23/85	44.63	3138.19
09/03/85	45.20	3137.62
11/04/85	41.64	3141.18
12/12/85	45.39	3137.43
01/13/86	47.04	3135.78
02/19/86	47.98	3134.84
03/06/86	46.35	3136.47

P-25
Stedje Bro'e
Highway 10 West
Elevation = 3181.76
Well depth = 65

Date	SWL	Depth to GW
06/20/85	29.71	3152.05

P-26
Stedje Bro'e
Highway 10 West
Elevation = 3185.64
Well depth = 74.2

Date	SWL	Depth to GW
06/20/85	35.90	3149.74
07/23/85	45.35	3140.29
09/03/85	48.23	3137.41
11/04/85	43.80	3141.84
12/12/85	47.82	3137.82
01/14/86	50.00	3135.64
03/16/86	45.47	3140.17
05/06/86	41.11	3144.53

P-28
Missoula County Shop
Elevation = 3197.83
Well depth = 75

Date	SWL	Depth to GW
06/21/85	47.24	3150.59
07/02/85	49.71	3148.12
07/08/85	51.54	3146.29
07/23/85	57.27	3140.56
09/23/85	59.53	3138.30
11/04/85	54.22	3143.61
12/12/85	57.55	3140.28
01/13/86	59.70	3138.13
05/06/86	53.67	3144.16

P-29
Missoula County Shop
Elevation = 3192.75
Well depth = 64

Date	SWL	Depth to GW
06/21/85	41.12	3151.63
07/02/85	43.47	3149.28
07/08/85	45.34	3147.41
07/23/85	51.05	3141.70
09/23/85	53.04	3139.71
11/04/85	48.14	3144.61

P-30
Missoula County Weed Control
Weed Control Road
Elevation = 3203.15
Well depth = 78

Date	SWL	Depth to GW
06/21/85	48.89	3154.26
07/08/85	54.66	3148.49
07/23/85	59.17	3143.98
09/03/85	62.14	3140.74
11/04/85	57.16	3145.99
12/12/85	61.15	3142.00
01/13/86	63.81	3139.34

P-36
Big Sky Tent
3759 Reserve
Elevation = 3227.80
Well depth = 73
Well yield = 60-70 gpm
Well completed: 4/10/65
Pumping water level = 31

Date	SWL	Depth to GW
06/21/85	24.70	3203.10
07/08/85	41.55	3186.25
07/23/85	57.17	3170.63
09/03/85	57.27	3173.53
11/04/85	37.00	3190.80
12/12/85	47.34	3180.46
01/13/86	54.76	3173.04
05/06/86	41.94	3185.86

P-31
Missoula County
Stockyard & Reserve
Elevation = 3210.93
Well depth = 112

Date	SWL	Depth to GW
06/21/85	52.44	3158.49
07/02/85	56.17	3154.26
07/08/85	59.15	3151.78
07/23/85	61.68	3146.25
09/03/85	68.23	3142.70
12/12/85	65.55	3145.38
01/13/86	69.05	3141.88
02/19/86	69.78	3141.15
03/06/86	65.93	3145.00
05/06/86	61.35	3149.58

P-32
Modern Machinery
Reserve
Elevation = 3211.87
Well depth = 132

Date	SWL	Depth to GW
06/21/85	58.76	3153.11
07/08/85	62.21	3149.66
07/23/85	67.20	3144.67
09/03/85	73.10	3138.77
12/12/85	68.18	3143.59
01/13/86	71.37	3140.50

P-33
Western Transport
Elevation = 3195.71
Well depth = 113'8"

Date	SWL	Depth to GW
06/21/85	45.46	3153.25
07/23/85	57.40	3141.31
09/03/85	59.50	3139.21
12/12/85	58.30	3140.41
01/13/86	60.84	3137.87
02/19/86	62.00	3136.71
03/06/86	56.54	3142.17
05/06/86	52.15	3146.52

P-34
Okies Electric
N. Reserve
Elevation = 3226.29
Well depth = 142

Date	SWL	Depth to GW
06/21/85	53.16	3173.13
07/08/85	63.24	3163.05
07/23/85	73.16	3153.13
09/03/85	75.44	3150.85
11/04/85	62.20	3164.09
12/12/85	69.83	3156.46
01/13/86	75.03	3151.26
02/19/86	75.20	3151.09
03/16/86	68.76	3157.53
05/06/85	64.25	3162.04

P-35
Elevation = 3222.16
Well depth = 90

Date	SWL	Depth to GW
06/21/85	35.34	3186.82
07/08/85	51.58	3170.58
07/23/85	62.79	3159.37
09/03/85	66.97	3155.19
11/04/85	46.73	3175.43
12/12/85	58.24	3163.92
01/13/86	65.05	3157.11
03/16/86	55.17	3166.99

P-37
Machinery Trading Post
4555 North Reserve
Elevation = 3231.40
Well depth = 116
Well yield = 90 gpm
Aquifer material: Gravel
Well completed: 10/15/71
Pumping water level = 70

Date	SWL	Depth to GW
06/21/85	31.55	3199.85
07/08/85	46.01	3185.39
07/23/85	60.50	3170.90
09/03/85	61.48	3169.92
11/05/85	43.28	3188.12
12/12/85	52.23	3179.12
01/13/86	58.50	3172.90
02/19/86	58.38	3173.02
05/06/86	51.26	3180.14

P-38
Jack Long Machinery
Elevation = 3231.76
Well depth = 91.2

Date	SWL	Depth to GW
06/21/85	63.81	3167.95
07/08/85	54.28	3177.48
07/23/85	68.02	3163.74
09/23/85	73.75	3158.01

P-39
Cenex
Reserve
Elevation = 3237.64
Well depth = 112

Date	SWL	Depth to GW
06/21/85	49.82	3187.82
07/02/85	53.19	3184.45
07/08/85	58.11	3179.53
07/23/85	68.89	3168.75
11/05/85	58.16	3179.48

P-40
Western Truck Rebuild
Elevation = 3244.08
Well depth = 84

Date	SWL	Depth to GW
06/21/85	34.43	3209.65
07/08/85	38.64	3205.44
07/23/85	53.50	3190.58
09/03/85	52.56	3191.52
12/12/85	39.21	3204.82
01/13/86	49.52	3194.56
02/19/86	47.28	3196.80
05/06/86	42.08	3202.00

P-41
Traveller's Inn
Reserve
Elevation = 3246.14
Well depth = 153
Well yield = 40 gpm
Aquifer material: Sand and Gravel
Well completed: 8/22/79
Pumping water level = 140

Date	SWL	Depth to GW
06/21/85	64.55	3181.59
07/08/85	73.64	3172.50
07/23/85	78.89	3167.25
09/03/85	81.19	3164.95

P-42
Jack Long Construction
Jack Long Construction Annex
Elevation = 3222.41
Well depth = 110

Date	SWL	Depth to GW
06/21/85	58.94	3163.47
07/08/85	63.53	3158.88
07/23/85	69.36	3153.05
09/03/85	75.29	3147.12
11/04/85	65.54	3156.87
12/12/85	69.23	3153.18
01/13/86	72.94	3149.47
03/06/86	72.05	3150.36

P-44
Morco
Elevation = 3204.49
Well depth = 90.7

Date	SWL	Depth to GW
06/21/85	52.15	3152.34
07/02/85	54.10	3150.39
07/08/85	57.43	3147.06
07/23/85	61.29	3143.20
09/03/85	62.70	3141.79
11/04/85	58.50	3145.99
12/12/85	63.15	3141.34
01/13/86	64.51	3139.98
03/16/85	63.29	3141.20
05/06/85	59.00	3145.49

P-45
Missoula County
Elevation = 3192.41
Well depth = 75

Date	SWL	Depth to GW	
06/21/85	52.49	3139.92	(very suspect)
07/02/85	51.36	3141.05	
07/08/85	52.70	3139.71	(3145.23)?
07/10/85	48.44	3143.97	
07/10/85	47.28	3145.13	
07/10/85	47.29	3144.73	
07/23/85	49.82	3142.59	
09/03/85	52.98	3139.43	
12/12/85	52.55	3139.86	
01/13/86	54.36	3138.05	
02/19/86	55.38	3137.03	
03/06/86	50.35	3142.06	
05/06/86	49.40	3143.01	

P-47
Earl's Distributing
Elevation = 3179.26
Well depth = 72

Date	SWL	Depth to GW
06/21/85	35.89	3143.37
07/08/85	39.44	3139.82
07/23/85	40.56	3138.70
11/04/85	44.22	3135.04
12/13/85	44.06	3135.20
01/14/86	43.53	3135.73

P-48
A. LeGaul
2910 Tina
Elevation = 3169.15
Well depth = 105

Date	SWL	Depth to GW
07/23/85	31.03	3138.12
09/03/85	30.48	3138.67

P-49
Frank Koble
3001 Tina
Elevation = 3163.51
Well depth = 71

Date	SWL	Depth to GW
06/20/85	21.95	3141.56
07/23/85	26.05	3137.46
09/03/85	26.76	3136.75
11/04/85	26.68	3136.83
12/12/85	28.75	3134.76
01/14/86	30.02	3133.49
03/06/86	29.60	3133.90
05/06/86	25.58	3137.93

P-50
Jim Nelson
2700 Reserve
Elevation = 3171.13
Well depth = 73

Date	SWL	Depth to GW
06/21/85	29.73	3141.30
07/23/85	32.75	3138.38
09/03/85	33.93	3137.20
11/04/85	34.22	3136.91
12/12/85	33.42	3137.71

P-51
Ostegren's
2585 Flynn
Elevation = 3160.44
Well depth = 62

Date	SWL	Depth to GW
06/20/85	22.98	3137.46
07/23/85	25.37	3135.07
09/03/85	27.57	3132.87
11/04/85	27.26	3133.18
12/12/85	29.58	3130.86
01/14/86	29.76	3130.68
02/19/86	31.65	3128.79
03/06/86	30.20	3130.24
05/06/86	25.95	3134.49

P-52
Courtney
2300 Flynn Lane
Elebation = 3165.51
Well depth = 65

Date	SWL	Depth to GW
06/20/85	30.26	3135.25
07/23/85	31.04	3134.47
09/03/85	32.17	3133.34
11/04/85	32.46	3133.05
12/13/85	33.78	3131.73
01/14/86	34.33	3131.18
02/19/86	36.14	3129.37
03/06/86	33.50	3132.01
05/06/86	31.05	3134.46

P-53
Flynn
2100 Flynn Lane
Elevation = 3153.50
Well depth = 52

Date	SWL	Depth to GW
06/20/85	25.96	3127.54
07/23/85	19.15	3134.35
09/03/85	20.20	3133.30
11/04/85	20.52	3132.98
12/13/85	21.99	3131.51
01/14/86	22.34	3131.16
05/06/86	19.10	3134.40

P-54
Flynn
Elevation = 3157.07
Well depth = 64

Date	SWL	Depth to GW
06/20/85	18.30	3138.77
07/23/85	22.44	3134.63
09/03/85	24.00	3133.07
11/04/85	23.86	3133.71
12/12/85	25.23	3131.84

P-56
Louis Kinney
3455 Highway 10 West
Elevation = 3187.05
Well depth = 60

Date	SWL	Depth to GW
06/21/85	40.81	3146.24
07/23/85	46.93	3140.12

P-58
Boll Wheeler
West View Park
Elevation = 3232.64
Well depth = 115 (?)

Date	SWL	Depth to GW
06/21/85	63.14	3169.5

APPENDIX 4C

Mountain Water Company Monthly Total Production

Mountain Water Company Monthly Total Production.

Month	Total Discharge (gallons)	Discharge from Wells Only (gallons)
Jan-72	523000000	
Feb-72	586950000	
Mar-72	567110000	
Apr-72	638490000	
May-72	691380000	
Jun-72	928340000	
Jul-72	979320000	
Aug-72	1107160000	
Sep-72	944760000	
Oct-72	679380000	
Nov-72	645700000	
Dec-72	639690000	
Jan-73	693790000	
Feb-73	680530000	
Mar-73	611310000	
Apr-73	713180000	
May-73	881510000	
Jun-73	942320000	
Jul-73	1178840000	
Aug-73	1308200000	
Sep-73	675450000	
Oct-73	447000000	
Nov-73	454820000	
Dec-73	582650000	
Jan-74	618480000	
Feb-74	620150000	
Mar-74	560910000	
Apr-74	640480000	
May-74	694960000	
Jun-74	867080000	
Jul-74	863450000	
Aug-74	883500000	
Sep-74	668830000	
Oct-74	564980000	
Nov-74	495120000	
Dec-74	502440000	
Jan-75	510530000	
Feb-75	531590000	
Mar-75	680480000	
Apr-75	729670000	
May-75	698140000	
Jun-75	938810000	
Jul-75	981080000	
Aug-75	1043920000	
Sep-75	574110000	
Oct-75	527310000	
Nov-75	525960000	
Dec-75	516480000	
Jan-76	532090000	

(continued above)

Month	Total Discharge (gallons)	Discharge from Wells Only (gallons)
Feb-76	525810000	
Mar-76	479290000	
Apr-76	615500000	
May-76	798310000	
Jun-76	1007940000	
Jul-76	1017370000	
Aug-76	922810000	
Sep-76	880230000	
Oct-76	757920000	
Nov-76	689710000	
Dec-76	764690000	
Jan-77	801620000	
Feb-77	811470000	
Mar-77	558930000	
Apr-77	637160000	
May-77	753240000	
Jun-77	802980000	
Jul-77	1057720000	
Aug-77	1125660000	
Sep-77	866800000	
Oct-77	662450000	
Nov-77	653040000	
Dec-77	668590000	
Jan-78	706170000	
Feb-78	681800000	
Mar-78	675090000	
Apr-78	720230000	
May-78	652120000	
Jun-78	820560000	
Jul-78	853900000	
Aug-78	1074440000	
Sep-78	710050000	
Oct-78	760120000	
Nov-78	684280000	
Dec-78	632400000	
Jan-79	755210000	
Feb-79	846150000	
Mar-79	749900000	
Apr-79	709910000	
May-79	759480000	
Jun-79	1011040000	
Jul-79	1105330000	
Aug-79	1144470000	
Sep-79	843430000	
Oct-79	779330000	
Nov-79	640040000	
Dec-79	590320000	
Jan-80	628970000	394739300
Feb-80	589170000	358777700

(continued on next page)

Mountain Water Company Monthly Total Production (continued).

Month	Total Discharge (gallons)	Discharge from Wells Only (gallons)
Mar-80	615530000	303011200
Apr-80	673720000	425654000
May-80	726920000	379676900
Jun-80	626890000	267011500
Jul-80	878580000	463885700
Aug-80	992640000	576710200
Sep-80	663340000	305486200
Oct-80	620880000	294725300
Nov-80	545050000	240475700
Dec-80	564060000	280188100
Jan-81	540710000	232699100
Feb-81	509420000	238893600
Mar-81	576080000	254207900
Apr-81	604160000	302079300
May-81	650150000	403357600
Jun-81	582490000	224160000
Jul-81	966130000	470334500
Aug-81	1038430000	536914000
Sep-81	651040000	288513000
Oct-81	516860000	156319300
Nov-81	303190000	114679900
Dec-81	446710000	123450200
Jan-82	505570000	173556400
Feb-82	523940000	375139900
Mar-82	516520000	170849000
Apr-82	520970000	126944000
May-82	706820000	457787700
Jun-82	797250000	456729500
Jul-82	777810000	346906800
Aug-82	947440000	484416600
Sep-82	654890000	278761300
Oct-82	528120000	162750300
Nov-82	455140000	171666600
Dec-82	512190000	188493300
Jan-83	503900000	196582200
Feb-83	441620000	169724700
Mar-83	476510000	133384400
Apr-83	563690000	160028900
May-83	735180000	342877700
Jun-83	866440000	398599100
Jul-83	763680000	633905000
Aug-83	889690000	889690000
Sep-83	701640000	701640000
Oct-83	649630000	649630000
Nov-83	608710000	608710000
Dec-83	644840000	644840000
Jan-84	699350000	699350000
Feb-84	664300000	664300000
Mar-84	707770000	707770000
Apr-84	706450000	706450000
May-84	753220000	753220000
Jun-84	841830000	841830000
Jul-84	1328280000	1328280000
Aug-84	1124750000	1124750000
Sep-84	776350000	776350000
Oct-84	718470000	718470000
Nov-84	649830000	649830000
Dec-84	691900000	691900000
Jan-85	701120000	701120000
Feb-85	634760000	634760000
Mar-85	718140000	718140000
Apr-85	739890000	739890000
May-85	988280000	988280000
Jun-85	1087280000	1087280000
Jul-85	1512830000	1512830000
Aug-85	859170000	859170000
Sep-85	690130000	690130000
Oct-85	648450000	648450000
Nov-85	621480000	621480000
Dec-85	644430000	644430000
Jan-86	656180000	656180000
Feb-86	596430000	596430000
Mar-86	673770000	673770000
Apr-86	693290000	693290000
May-86	867580000	867580000
Jun-86	1115730000	1115730000
Jul-86	1099160000	1099160000
Aug-86	1254510000	1254510000
Sep-86	703150000	703150000
Oct-86	651570000	651570000
Nov-86	588910000	588910000
Dec-86	585140000	585140000
Jan-87	598370000	598370000
Feb-87	550350000	550350000
Mar-87	617850000	617850000
Apr-87	683710000	683710000
May-87	821280000	821280000
Jun-87	863340000	863340000
Jul-87	975330000	975330000
Aug-87	952310000	952310000
Sep-87	826520000	826520000

(continued above)

Mountain Water Company Discharge Data.

Discharge Per Well, In Gallons.

DATE	WELL #1	WELL#2	WELL #3	WELL #4	WELL #5	WELL #6	WELL #7	WELL #8	WELL #9	WELL #10
Jan-80	32381000	0	0	4000	0	0	0	7502000	12000	43078000
Feb-80	28610000	0	0	1000	0	0	0	10559000	0	40336000
Mar-80	2773000	0	0	1162000	0	0	0	12948000	0	43142000
Apr-80	6230000	1553000	0	1490000	0	0	0	18023000	21000	41326000
May-80	4952000	1300600	3323000	1363000	0	0	0	8101000	719000	42954000
Jun-80	18000	421600	8987000	157000	0	0	3153700	11478000	27000	43773000
Jul-80	8661000	6322000	33297000	3418000	0	0	48022000	27022000	3784000	42865000
Aug-80	16284000	5308600	32570000	4061000	0	0	48175800	31435000	2267000	44607000
Sep-80	11000	172500	30398000	125000	0	0	44998900	8030000	10000	39197000
Oct-80	13000	1700	21810000	2000	0	0	45050100	2387000	7000	38325000
Nov-80	0	0	0	1000	0	0	42627100	16000	0	41561000
Dec-80	0	0	0	132000	0	0	46157100	19000	0	43619000
Jan-81	0	0	0	1000	0	0	46159100	20000	0	44008000
Feb-81	0	0	0	1000	0	0	41005400	8000	0	39357000
Mar-81	24646000	6424500	11328000	0	0	0	44543900	22000	10900	42546000
Apr-81	26145000	23743000	18412000	0	0	0	41331900	10000	5000	38981000
May-81	27606000	666100	3000	1000	0	0	44371400	20000	9000	42047000
Jun-81	8268000	2504300	4000	148000	0	0	44994400	17000	13000	43366000
Jul-81	42139000	18189200	4000	2629000	0	0	46522700	2282000	578000	41423000
Aug-81	27946000	16499300	1000	3967000	0	0	45585300	22078000	4624000	39835000
Sep-81	METER BROKEN	2388000	7000	710000	0	0	43411600	20607000	442000	37735000
Oct-81	METER BROKEN	5000	5000	0	0	0	43674900	10000	0	22587000
Nov-81	METER BROKEN	3500	0	0	0	0	25891900	9000	0	4000
Dec-81	METER BROKEN	3000	0	0	0	0	1236000	33508000	0	0
Jan-82	METER BROKEN	3000	0	2000	0	0	36768300	12123000	0	0
Feb-82	METER BROKEN	0	0	1000	0	0	39623100	4154000	0	0
Mar-82	METER BROKEN	0	0	124000	0	0	44842500	7229000	0	0
Apr-82	METER BROKEN	0	4000	172000	0	0	42899800	1023000	4000	0
May-82	METER BROKEN	1027200	15000	2171000	0	0	43508900	8809000	667000	9319000
Jun-82	METER BROKEN	4297900	7167000	4663000	0	0	39384900	16711000	5315000	40450000
Jul-82	METER BROKEN	4879200	12000	5079000	0	0	45716700	14856000	3436000	43963000
Aug-82	39929000	12634200	10000	8330000	0	0	45776100	28348000	5230000	43775000
Sep-82	41267000	12705700	8000	3102000	0	0	31340100	8656000	1077000	36099000
Oct-82	42058000	500	0	461000	0	0	43934100	5000	0	0
Nov-82	13637000	0	0	485000	0	0	42477600	2490000	0	0
Dec-82	0	0	0	842000	0	0	44427100	5603000	0	0
Jan-83	0	0	0	1583000	0	0	20029700	37647000	0	0
Feb-83	0	0	0	1419000	0	0	0	42513000	0	0
Mar-83	0	0	0	334000	0	0	0	46713000	0	0
Apr-83	0	0	0	266000	0	0	0	27572000	0	0
May-83	9471000	133700	0	1760000	0	0	8761800	18011000	517000	9263000
Jun-83	42025000	2795800	11000	4159000	0	0	44299500	29375000	2940000	41298000
Jul-83	41640000	212500	2000	1304000	0	0	44406900	5422000	715000	38618000
Aug-83	40952000	2500	0	4407000	0	0	42335400	15177000	5823000	36952000
Sep-83	39158000	2000	0	748000	0	0	40652100	3059000	3000	38118000
Oct-83	40068000	2500	0	55000	0	0	41571500	5000	2000	39306000
Nov-83	12628000	0	0	34000	0	0	40015000	5000	0	38034000
Dec-83	0	0	0	0	0	0	41606400	5000	0	39042000
Jan-84	0	0	0	1000	0	0	41591200	256000	0	38608000
Feb-84	0	0	2137000	1000	0	0	38139400	4000	0	34874000
Mar-84	0	0	0	2000	0	0	40651600	4000	0	19889000
Apr-84	25093000	600	0	1000	0	0	39332200	22000	0	36764000
May-84	37495000	185400	0	10000	0	0	42491600	622000	898000	37519000
Jun-84	35968000	606700	0	829000	0	0	41633300	7997000	19640000	37075000
Jul-84	34527000	0	3424500	7173000	0	0	45860400	12593000	37024000	38653000
Aug-84	34734000	1775400	0	2790000	0	0	44635400	9160000	22021000	40473000
Sep-84	37692000	1100	0	166000	0	0	42276800	707000	289000	39538000
Oct-84	22130000	2100	3000	1000	0	0	44752500	8000	5000	39762000
Nov-84	0	0	3000	1000	0	0	43143200	4000	0	38954000
Dec-84	0	0	3000	0	0	0	44501400	4000	0	40357000

Mountain Water Company Discharge Data (continued).

Discharge Per Well, in Gallons.

DATE	WELL #11	WELL #12	WELL #13	WELL #14	WELL #15	WELL #16	WELL #17	WELL #18	WELL #19	WELL #20
Jan-80	4851000	12167000	2507000	44503000	0	44000	336000	32000	5448000	31000
Feb-80	4353000	12065000	2339000	41737000	0	32000	723000	16000	4642000	5000
Mar-80	18000	11251000	2480000	41765000	0	14000	357000	16000	18000	23000
Apr-80	755000	12246000	3661000	39438000	0	155000	432000	29000	5618000	5801000
May-80	35000	12688000	3611000	42204000	0	18000	425000	24000	5472000	2082000
Jun-80	2942000	14153000	2467000	43243000	0	11000	275000	26000	2652000	806000
Jul-80	10970000	19333000	6573000	47088000	0	2310000	556000	31000	17252000	12663000
Aug-80	440000	20808000	7697000	47024000	0	10400000	1933000	213B000	26618000	9995000
Sep-80	8000	14326000	3655000	44093000	0	1181000	618000	220000	6672000	273000
Oct-80	0	13252000	3159000	44749000	0	20000	794000	1593000	2393000	27000
Nov-80	0	10520000	2368000	42886000	0	18000	554000	28000	18000	365000
Dec-80	0	10608000	2491000	41313000	0	27000	538000	2081000	27000	40000
Jan-81	26000	10366000	2230000	14820000	0	185000	443000	2220000	14000	30000
Feb-81	11000	9810000	2409000	40280000	0	24000	467000	1000	17000	25000
Mar-81	5313000	11465000	2407000	44394000	0	19000	727000	30000	251000	5430000
Apr-81	179000	11909000	2549000	42705000	0	119000	830000	264000	496000	10000
May-81	4100000	12277000	2869000	44928000	0	11000	1015000	1161000	248000	1134000
Jun-81	2085000	12576000	1051000	45266000	0	17000	1094000	2522000	626000	2255000
Jul-81	13137000	23322000	4387000	44849000	0	893000	3134000	1844B000	6489000	1964000
Aug-81	32389000	25058000	9288000	45041000	0	195000	3077000	37042000	21788000	4521000
Sep-81	8000	16729000	5471000	42508000	0	16000	1825000	10190000	5476000	21000
Oct-81	10000	10638000	2898000	38746000	0	13000	993000	10000	47000	23000
Nov-81	8000	10233000	2796000	37890000	0	10000	1016000	5000	24000	13000
Dec-81	9000	11044000	2918000	44856000	0	3000	3198000	5000	6000	19000
Jan-82	10000	12951000	3037000	45360000	0	7000	3316000	128000	3000	20000
Feb-82	15000	12357000	2570000	40582000	0	17000	1080000	272000	18000	736000
Mar-82	12000	13064000	1687000	45767000	0	11000	1160000	39000	38000	1825000
Apr-82	13000	13125000	0	44065000	0	12000	1252000	90000	141000	3946000
May-82	20394000	16183000	3000	46098000	0	1434000	1740000	9540000	3172000	458000
Jun-82	14931000	18456000	6000	44323000	0	8422000	2338000	647000	11050000	6516000
Jul-82	13693000	19615000	0	45391000	0	10054000	2362000	988000	10426000	8124000
Aug-82	36820000	20864000	1000	45036000	0	14072000	2924000	1340000	17826000	15680000
Sep-82	15000	17323000	1000	42572000	0	3504000	1845000	150000	23820000	410000
Oct-82	5000	17219000	0	43597000	0	19000	1247000	10000	11000	20000
Nov-82	15000	16540000	0	42593000	0	65000	1108000	5000	1000	13000
Dec-82	15000	17238000	0	44043000	0	191000	1369000	10000	5000	20702000
Jan-83	1000	16718000	0	43835000	0	134000	1443000	7000	3000	6897000
Feb-83	228000	15059000	2000	39358000	0	457000	911000	8000	13000	258000
Mar-83	7000	18905000	0	18037000	0	252000	997000	13000	32000	51000
Apr-83	8000	18717000	0	42130000	0	950000	889000	12000	88000	14000
May-83	1948000	20623000	0	46334000	0	4542000	1088000	METER BROKEN	744000	7000
Jun-83	6570000	21370000	0	45657000	0	8794000	2136000	METER BROKEN	7529000	18000
Jul-83	22398000	21031000	3315000	45386000	0	1379000	1834000	METER BROKEN	666000	94000
Aug-83	31879000	21167000	6739000	44283000	0	2844000	2371000	METER BROKEN	14066000	7000
Sep-83	986000	19303000	3856000	41702000	0	678000	1322000	METER BROKEN	1604000	8000
Oct-83	4000	14413000	3188000	42492000	0	3000	1024000	METER BROKEN	1000	6000
Nov-83	3000	13233000	3178000	40953000	0	4000	765000	781000	0	5000
Dec-83	0	12918000	3561000	42926000	0	0	708000	0	0	5000
Jan-84	0	13088000	3239000	43038000	0	1000	710000	2000	630000	683000
Feb-84	0	12190000	3010000	39668000	0	0	700000	3000	1776000	6439000
Mar-84	0	12765000	3086000	42569000	0	2000	691000	4000	37000	25434000
Apr-84	0	13014000	606000	41765000	0	4000	723000	6000	25000	8000
May-84	1116B000	14675000	1000	43903000	0	6000	836000	6000	2915000	321000
Jun-84	38059999	17875000	0	41296000	0	92000	1535000	138B000	21492000	20033000
Jul-84	42897000	27413000	9499000	45864000	0	9194000	2637000	1389000	40350000	48332000
Aug-84	22753000	24236000	8654000	42790000	0	3784000	2097000	3000	49367000	26485000
Sep-84	9255000	16103000	4677000	40266000	0	381000	966000	4000	11182000	7446000
Oct-84	18272000	14098000	3808000	40408000	0	3000	1508000	4000	9000	7000
Nov-84	5000	14504000	3161000	38843000	0	1000	3575000	4000	0	4000
Dec-84	6000	18921000	3192000	41036000	0	5000	3525000	5000	3000	10000

Mountain Water Company Discharge Data (continued).

Discharge Per Well, In Gallons.

DATE	WELL #21	WELL #22	WELL #23	WELL #24	WELL #25	WELL #26	WELL #27	WELL #28	WELL #29	WELL #30
Jan-80	67000	42390000	1511800	8382500	616000	16982000	27000	0	3471000	0
Feb-80	13000	39804000	1515700	7694000	942000	7497000	13000	0	3188000	0
Mar-80	23314000	42828000	1636400	10167800	3017000	19563000	17000	0	3458000	0
Apr-80	47421000	41227000	1563700	14999300	10948000	18309000	283000	0	5075000	22432000
May-80	26526000	42309000	1343800	15648500	11460000	8963000	228000	0	5302000	20771000
Jun-80	54882000	34783000	379600	15262600	10944000	10689000	34000	0	4828000	30000
Jul-80	57252000	37516000	0	1515003700	12007000	23928000	3765000	0	9785000	17000
Aug-80	56552000	43400000	0	15557800	17593000	24832000	9983000	0	12073000	24000
Sep-80	43414000	40200000	0	13793900	4638000	2130000	7000	0	5637000	9000
Oct-80	55567000	40300000	3592000	8097500	2328000	17000	13000	0	4393000	10000
Nov-80	48314000	39000000	7483900	1252700	5000	23000	17000	0	3333000	4000
Dec-80	56140000	40300000	8778100	3525900	222000	7020000	18000	0	3556000	27000
Jan-81	54259000	41489000	8609300	3690700	280000	8000	25000	0	3556000	6000
Feb-81	50401000	36214000	7085100	1525100	3000	14000	7000	0	3340000	25000
Mar-81	25311000	8891000	8416000	2530500	36000	62000	5060000	0	4242000	43000
Apr-81	16021000	14036000	7318500	4291300	452000	2811000	8000	0	4619000	383000
May-81	29617000	197000	8206000	3523100	774000	868000	85000	0	5118000	1185000
Jun-81	26919000	2197000	8684600	4596700	1365000	6688000	477000	0	5209000	6000
Jul-81	49172000	7655000	8683100	15378500	19967000	36886000	13694000	0	14674000	3000
Aug-81	53673000	10299000	9154600	14883800	1405800	37592000	13684000	0	16615000	10000
Sep-81	23224000	1073000	8796400	9842000	3335000	8683000	3956000	0	8267000	9000
Oct-81	6000	5000	9238000	15706400	7089000	18000	11000	0	4436000	6000
Nov-81	555000	191000	8853300	15045200	7005000	365000	11000	0	3583000	13000
Dec-81	4000	144000	8453800	1559400	281000	11876000	413000	0	3742000	13000
Jan-82	9000	26377000	8631900	1395200	18000	51000	3246000	0	3226000	8000
Feb-82	32700000	17429000	3121500	5695300	358000	77000	15000	0	3012000	108000
Mar-82	27000	40066000	8604800	1590700	14000	748000	13000	0	3680000	13000
Apr-82	13000	342000	8306700	2083500	12000	4348000	20000	0	3962000	3000
May-82	26119000	1659000	9272700	8462900	1823000	14828000	2544000	0	7838000	2938000
Jun-82	18783000	2730000	8978900	11203800	4827000	27556000	4448000	0	9819000	2514000
Jul-82	19001000	3087000	9205600	9056300	4667000	22406000	5094000	0	9989000	5000
Aug-82	48621000	8578000	9205300	14003400	8401000	45209000	4775000	0	13576000	4000
Sep-82	23238000	1826000	8895800	7337700	1925000	19146000	446000	0	6999000	14000
Oct-82	10000	7000	8334800	1907900	6000	7000	5000	0	3831000	7000
Nov-82	20000	28447000	7819200	1684800	11000	10655000	15000	0	3541000	4000
Dec-82	15000	32921000	7405900	2526300	48000	7141000	200000	0	3742000	11000
Jan-83	3167000	41464000	8295500	1617000	4000	9412000	404000	0	3887000	7000
Feb-83	321000	39499000	7308700	1663000	16000	16809000	226000	0	3590000	7000
Mar-83	18000	23763000	8132100	1916300	12000	10921000	11000	0	4103000	25000
Apr-83	15462000	4705000	8381600	4149300	131000	31127000	452000	0	4936000	4000
May-83	20852000	5965000	8972500	7379700	1595000	45629000	1882000	0	7595000	5488000
Jun-83	25143000	6194000	8815700	10097100	3899000	26474000	6190000	0	10327000	1161000
Jul-83	43369000	263000	9217100	4028500	4148000	31413000	2970000	0	7019000	478000
Aug-83	53360000	113000	9083500	7464100	6735000	45617000	3333000	0	9687000	3163000
Sep-83	51287000	3000	8664900	1322500	3235000	21402000	1467000	0	6206000	428000
Oct-83	52988000	0	8224200	11600	1440000	4000	5000	0	5179000	55000
Nov-83	51336000	0	7895300	2100	1253000	4000	5000	0	4775000	3334000
Dec-83	52674000	0	8515200	41700	1765000	2000	2000	0	5054000	70000
Jan-84	52745000	361000	8103600	2374100	623000	2910000	5000	0	5363000	26000
Feb-84	45917000	0	7780000	2495500	51000	5789000	6000	0	5186000	2812000
Mar-84	52898000	6000	8459300	1697400	821000	294000	7000	0	4973000	85728
Apr-84	45942000	7000	8375700	3161800	757000	9636000	5000	0	5421000	3278080
May-84	50158000	1396000	8745400	5029000	201000	2320000	243000	0	6513000	6724266
Jun-84	47706000	29000	8687400	8077600	2023000	19223000	2813000	0	9353000	30910614
Jul-84	28918000	3168000	9048800	15130200	16023000	6185000	10998000	0	20950000	108864000
Aug-84	8724000	698000	8970000	14033500	7891000	20836000	3633000	0	14703000	137006000
Sep-84	6217000	93000	8704000	6760600	787000	12072000	2000	0	7559000	136648000
Oct-84	5797000	149000	8580100	4392100	97000	13730000	4000	0	6311000	141559000
Nov-84	161000	41000	7934100	3015500	3000	982000	4000	0	5491000	134281000
Dec-84	44000	95000	8450500	3153100	5000	5000	5000	0	5843000	139239000

Mountain Water Company Discharge Data (continued).

Discharge Per Well, In Gallons.

DATE	WELL #31	WELL #32	WELL #33	WELL #34	WELL #35	WELL #36	WELL #37
Jan-80	41507000	126645000	52000	117000	75000	0	0
Feb-80	38196000	114380000	37000	41000	40000	0	0
Mar-80	4452000	78439000	18000	112000	22000	0	0
Apr-80	38261000	55109000	8670000	22396000	2182000	0	0
May-80	31309000	60213000	8897000	17006000	429000	0	0
Jun-80	103000	143000	161000	141000	41000	0	0
Jul-80	27000	6312000	396000	2348000	5264000	0	0
Aug-80	26000	78430000	36000	4303000	2139000	0	0
Sep-80	8000	1612000	10000	11000	28000	0	0
Oct-80	184000	6545000	27000	35000	34000	0	0
Nov-80	7000	15000	15000	17000	27000	0	0
Dec-80	13439000	12269000	4564000	13228000	47000	2000	0
Jan-81	8000	8000	11000	12000	26000	189000	0
Feb-81	177000	25000	24000	6621000	17000	0	0
Mar-81	12000	11000	10000	9000	18000	0	0
Apr-81	13625000	13742000	4641000	12393000	8000	41000	0
May-81	51103000	47180000	22690000	50254000	15000	76000	0
Jun-81	30000	10000	2000	7000	867000	295000	0
Jul-81	18000	18872000	64000	67000	14795000	12000	0
Aug-81	18000	4706000	16000	24000	10188000	12158000	0
Sep-81	3233000	29115000	18000	10000	9000	1398000	0
Oct-81	16000	97000	0	5000	20000	6000	0
Nov-81	113000	994000	0	13000	28000	7000	0
Dec-81	23000	19000	0	12000	4000	101000	0
Jan-82	7791000	9067000	0	8000	0	0	0
Feb-82	84200000	84704000	0	42269000	20000	6000	0
Mar-82	51000	236000	0	16000	0	0	0
Apr-82	1084000	1000	0	7000	0	15000	0
May-82	74063000	73738000	21371000	45677000	18000	2897000	0
Jun-82	46476000	46698000	11822000	27794000	379000	8013000	0
Jul-82	12000	1476000	8000	12000	2679000	7746000	0
Aug-82	24000	9000	0	9000	2596000	23948000	0
Sep-82	38000	31182000	314000	1829000	37000	1077000	0
Oct-82	5000	6000	12000	5000	0	20000	0
Nov-82	12000	6000	8000	7000	0	7000	0
Dec-82	8000	7000	11000	8000	2000	2000	0
Jan-83	5000	7000	8000	7000	0	0	0
Feb-83	21000	9000	6000	9000	10000	4000	0
Mar-83	6000	16000	10000	8000	0	2000	0
Apr-83	7000	9000	7000	10000	0	2000	0
May-83	33486000	30922000	19647000	29960000	237000	64000	0
Jun-83	10215000	15274000	3996000	7054000	1784000	2998000	0
Jul-83	107246000	76963000	20408000	72472000	11000	25476000	0
Aug-83	152660000	136822000	42876000	108035000	1000	41731000	0
Sep-83	147949000	131304000	10096000	87193000	12000	39672000	0
Oct-83	150737000	136256000	583000	71272000	0	40735000	0
Nov-83	135668000	127821000	12757000	74636000	2000	39585000	0
Dec-83	152900000	135296000	3319000	103254000	1000	41170000	0
Jan-84	151099000	136225000	25266000	131711000	2000	40701000	0
Feb-84	131922000	121131000	36563000	125215000	1000	40493000	0
Mar-84	148893000	134789000	30170000	136534552	2000	42805000	0
Apr-84	146558000	121388000	45867000	117018720	12000	41459000	0
May-84	152208000	136582000	29642000	114618336	4000	43780000	0
Jun-84	85962000	122607000	21909000	83929030	35000	44556000	0
Jul-84	122475000	76697000	110935000	259630000	83852000	48572000	0
Aug-84	101009000	20648000	113474000	238600000	52684000	46081000	0
Sep-84	80373000	1425000	27198000	219370000	15085872	43102000	0
Oct-84	78274000	7000	9951000	223890000	2881536	33668000	4323366
Nov-84	99466000	4000	9000	256190000	3000	0	42354
Dec-84	113820000	0	4000	268340000	6000	225000	1097986

APPENDIX 5A

Clark Fork River Leakage Calculations

Clark (1986) attempted to quantify the leakage through the bed of the Clark Fork River between the University Walking Bridge and the Reserve Street Bridge, a three mile length of river channel. Using a mass balance equation, he quantified discharge lost between the two Clark Fork River sites:

$$(NW + SW + RF) - (MD + OD + FD + NR + SR) = \text{Discharge lost}$$

where: NW = Clark Fork River at North Walking Bridge
SW = Clark Fork River at South Walking Bridge
RF = Rattlesnake Creek at Front Street Bridge
MD = Missoula Irrigation Ditch at its headgate
OD = Orchard Homes Irr. Ditch at its headgate
FD = Frenchtown Irr. Ditch at its headgate
NR = Clark Fork River at North Reserve Street
SR = Clark Fork River at South Reserve Street

The location of each site is shown in Plate 1. For this project, all of Clark's stage measurements were used in conjunction with stage discharge equations (Table A5.A) derived from Clark's stage discharge graphs to calculate loss of Clark Fork River discharge (Q) using the mass balance equation above (Table A5.B). These data are graphically presented in Figure A5.1. Next average discharge loss per day per river channel mile was calculated by averaging groups of discharge values for each month and dividing by the original mass balance channel length, three miles (Table A5.C). Finally, the average daily discharge loss rate was multiplied by the length of channel assumed to be leaking (Figure 5.4) for a given month and the necessary conversion factors to derive the volume of river leakage per month (Table A5.C). River ice interfered with accurate stage measurements from November through February and those data are judged unrepresentative. To calculate total annual leakage, loss values for October were assumed for the winter period (Table A5.C) and monthly volumes summed.

TABLE A5.A

Stage-Discharge Equations

The discharge, Q in cubic feet per second, is calculated by inserting the stage, in elevation above mean sea level (ft).

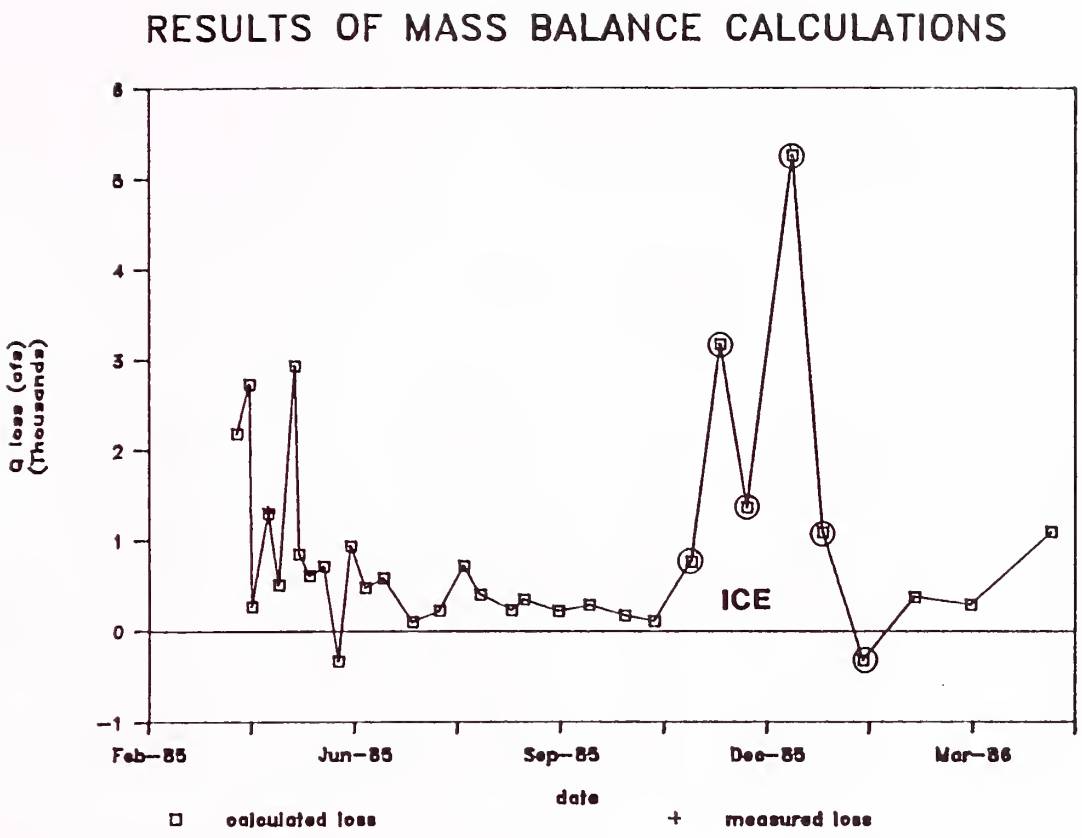
NW Clark Fork River Walking Bridge (main channel)	$10^{(1.564632*\log(stage-3172.97)+2.728)}$	= Q	North
SW Clark Fork River South Walking Bridge (delivering irrigation water)	$10^{(58.57025*\log(stage-3109.0)-106.27)}$	= Q	
NR Clark Fork River North Channel Reserve Street Bridge	$10^{(1.722323*\log(stage-3139.98)+2.410)}$	= Q	
SR Clark Fork River South Channel Reserve Street Bridge	$10^{(8.035535*\log(stage-3131.06)-6.162)}$	= Q	
RF Rattlesnake Creek Front Street Bridge	$10^{(4.843767*\log(stage-3174.42)-0.562)}$	= Q	
OD Orchard Homes Irrigation Ditch	$10^{(0.2830*\log(stage-3171.41)+1.545)}$	= Q	
MD Missoula Irrigation Ditch	(Stage-67.31979-213859.)	= Q	
FD Frenchtown Irrigation Ditch	$10^{(0.097494*\log(stage-3161.83)+1.578)}$	= Q	

TABLE A5.B: MASS BALANCE CALCULATIONS

date	clark days	MD Q	MD Stage	DD Q	DD Stage	FD Q	FD Stage	NW Q	NW Stage	SW Q	SW Stage	NK Q	NK Stage	SR Q	SR Stage	RF Q	RF Stage	Q lost calc /3a1	Q lost measured /3a1 (Clark,1986)
04/01/85																			
04/01/85																			
04/06/85	5							2040.570	3175.33	141.7437	3179.98								
04/12/85	11							2564.237	3175.7	165.7685	3180.17								
04/13/85	12							3082.391	3176.04	198.6144	3180.39	2872.916	3144.04	432.3243	3143.5	289.6911	3178.63	265.4566	685
04/21/85	20							5150.791	3177.23	306.3062	3180.92	3737.489	3144.71	757.7941	3144.4	331.9375	3178.75	1293.752	1315
04/26/85	25							3534.372	3176.32	228.3026	3180.56	2983.485	3144.13	461.0501	3143.6	192.6617	3178.29	510.8018	
05/04/85	33							6557.866	3177.94	390.8763	3181.22	4140.873	3145	593.3590	3144	712.7661	3179.49	2927.276	
05/06/85	35							8016.823	3178.62	459.6046	3181.42	6393.647	3146.44	1803.399	3145.92	563.5529	3179.25	842.9339	
05/11/85	40	60.03718	3179.14	30.09137	3172.08	28.85719	3161.89	6578.549	3177.95	346.0610	3181.07	5373.679	3145.82	1244.802	3145.25	426.5088	3178.98	613.6513	377
05/18/85	47	107.8342	3179.85	27.84048	3171.94	33.58853	3162.12	4906.632	3177.1	321.6383	3180.98	4027.865	3144.92	809.4823	3144.51	483.6930	3179.1	705.3531	
05/25/85	54	123.3177	3180.08	32.22973	3172.24	38.83539	3163.12	7795.687	3178.52	470.8899	3181.45	7215.801	3146.91	1852.736	3145.97	666.3478	3179.42	-329.995	528
05/31/85	60	115.9126	3179.97	29.94434	3172.07	38.89362	3163.14	7533.283	3178.4	444.9702	3181.38	5857.932	3146.12	1505.655	3145.59	504.0491	3179.14	933.9844	
06/07/85	67	108.5074	3179.86	26.51720	3171.87	37.65677	3162.77	5730.364	3177.53	251.8433	3180.68	4800.765	3145.45	1042.370	3144.94	509.2428	3179.15	475.6329	
06/16/85	76	97.06306	3179.69	15.25124	3171.55	37.15947	3162.65	3701.143	3176.42	334.9893	3181.03	3070.691	3144.2	491.4334	3143.7	257.8491	3178.53	582.3836	618
06/30/85	90	68.11555	3179.26	23.48688	3171.74	38.74650	3163.09	1737.326	3175.1	132.6839	3179.9	1628.445	3142.9	139.8714	3141.87	128.5755	3177.98	99.92071	
07/13/85	103	113.8930	3179.94	13.32883	3171.53	35.98835	3162.42	1163.572	3174.62	235.8985	3180.6	1015.688	3142.2	87.34918		91.69307	3177.74	224.9162	
07/25/85	115	107.8342	3179.85	10.21269	3171.51	37.95751	3162.85	1333.926	3174.77	275.5089	3180.79	798.0865	3141.91	68.63544		128.5755	3177.98	715.2850	
08/02/85	123	89.65788	3179.58	10	3171.42	35.27353	3162.31	800.0183	3174.27	195.3815	3180.37	493.5148	3141.44	42.44228		76.71758	3177.62	401.2289	99
08/17/85	138	104.4682	3179.8	24.52272	3171.78	35.80617	3162.39	1253.383	3174.7	253.9094	3180.69	1103.912	3142.31	94.93650		83.94060	3177.68	227.5872	
08/23/85	144	75.52073	3179.37	24.76507	3171.79	34.65408	3162.23	1310.730	3174.75	264.4925	3180.74	1095.765	3142.3	94.23581		95.77662	3177.77	346.0582	
09/09/85	161	63.40317	3179.19	28.19072	3171.96	20.00152	3161.83	1322.310	3174.76	286.9759	3180.84	1324.544	3142.57	113.9108		159.0885	3178.14	218.3237	
09/24/85	176	23.68449	3178.6	20.97481	3171.66	27.03338	3161.86	1946.422	3175.26	219.1450	3180.51	1825.278	3143.1	162.0686	3142.07	178.6184	3178.23	285.1454	
10/11/85	193				3170.92	27.03338	3161.86	1686.403	3175.06	224.5953	3180.54	1686.505	3142.96	151.7854		126.8355	3177.97	172.5101	351
10/25/85	207				3170.88	18	3161.72	1737.326	3175.1	241.7580	3180.63	1805.172	3143.08	180.6834	3142.22	135.7258	3178.02	110.9546	
11/12/85	225							1880.160	3175.21	514.6481	3181.56	1725.684	3143	200.3382	3142.22	296.4181	3178.65	765.2040	
11/26/85	239							3484.884	3176.29	126.2650	3179.84	1441.119	3142.7	190.3603	3142.22	1194.182	3180.06	3173.852	
12/09/85	252							3305.593	3176.18	271.0492	3180.77	1927.206	3143.2	285.4039	3142.22			1364.032	
12/31/85	274							5750.065	3177.54			2268.821	3143.52	372.2955	3142.22	2153.327	3180.79	5262.275	
01/15/86	289							3734.829	3176.44			2357.853	3143.6	424.6306	3142.22	135.7258	3178.02	1088.071	
02/04/86	309							1380.759	3174.81	228.3026	3180.56	1696.264	3142.97	332.6240	3142.22	97.16940	3177.78	-322.657	45
03/01/86	334							4981.302	3177.14	313.6802	3180.95	4399.917	3145.18	864.2314	3144.62	343.2264	3178.78	374.2602	
03/28/86	361							3177.359	3176.1	384.5866	3181.2	2983.485	3144.13	432.3243	3143.5	145.1035	3178.07	291.2404	
05/06/86	400							5632.225	3177.48	739.2237	3182.01	4695.436	3145.38	995.0645	3144.86	408.6900	3178.94	1089.638	

Stage in ft

Discharge in cfs



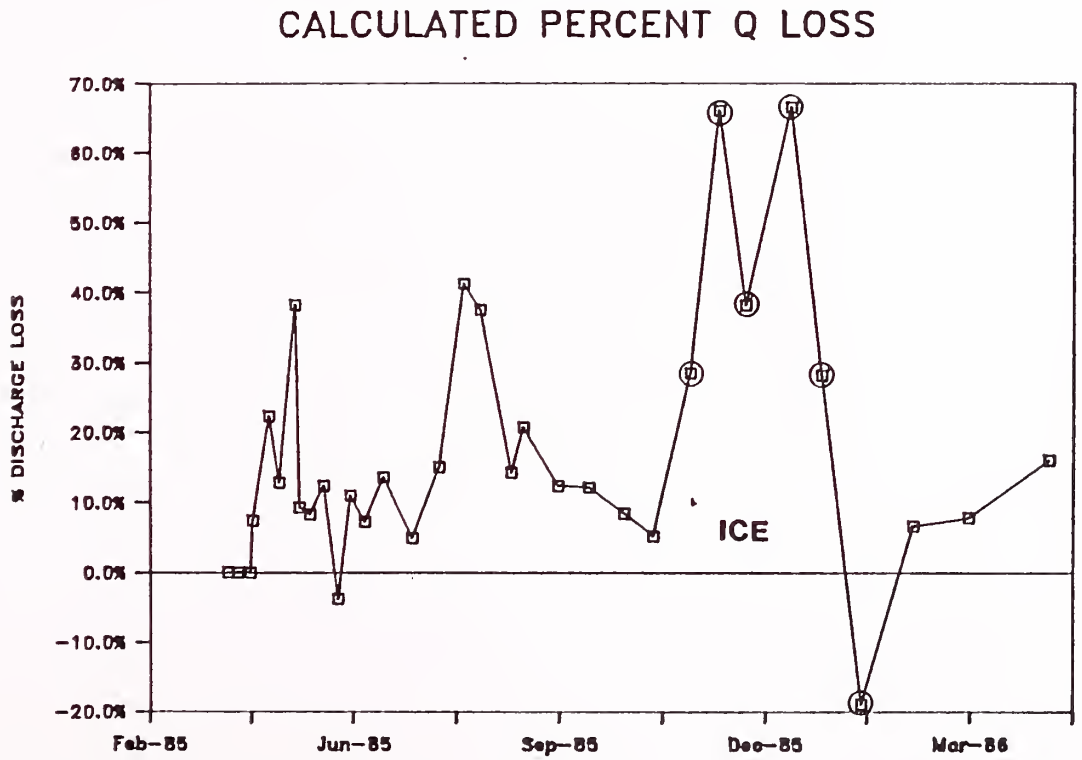


Figure A5.1: Results of mass balance calculations for each of Clark's data points (top) and a plot of the percent discharge loss (bottom). Circled points reflect poor stage measurements because of ice conditions. These data points are considered unreliable.

TABLE A5.C: CFR LEAKAGE CALCULATIONS

	cfs/mi	Channel miles loosing	ft3/mo	Leakage acft/mo
M85	316.2879	4.5	3.8E+09	87515.05
J58	128.6597	4.0	1.3E+09	30623.13
J85	156.7002	4.0	1.7E+09	38540.48
A85	108.3193	4.5	1.3E+09	29971.34
S85	83.91153	4.5	9.8E+08	22468.87
O85	47.24413	4.5	5.7E+08	13072.17
N85	656.5093	6.0	1.0E+10 *ice	13072.17 *ice
D85	1104.384	6.0	1.8E+10 *ice	13072.17 *ice
J86	362.6904	6.0	5.8E+09 *ice	13072.17 *ice
F86	-107.552	6.0	-1.6E+09 *ice	13072.17 *ice
M86	110.9167	6.0	1.8E+09	40920.03
A86	363.2128	4.5	4.2E+09	97256.98
	TOTAL		1.8E+10 ft3/y**	412656.8 acft/yr**

** Oct data for N.D.J.F

APPENDIX 6A

Water Quality Sampling Results

This appendix reports the results of sampling of wells which were part of the monitoring network. Section 1 presents the results of water chemistry analyses and section 2 the quality control data.

SECTION 1

Water Quality Data

LEGEND

DATE

Sampling date

SpC

Specific conductance
(umhos/cm)

TEMP

Temperature in °C

MAJOR ANIONS, CATIONS
AND TDS

concentrations in mg/l

TRACE METALS AND METALOIDS

concentrations in mg/l

< denotes below detection
limit

Missoula Valley Water Quality Data

Well#	Sample	Date	SpC	pH	temp	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
BR SB	45	02/05/86	182	7.5	9.5										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
BR SB	46	02/05/86	182	7.5	9.5	89.3	2.39	5.4	0.24	17.8	5.4	5.7	1.6	129.2								
BR SB	88	07/27/86	387	7.9	19.0	99.1	1.65	2.0	0.08	18.8	5.0	6.3	2.2	135.4	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
BR SB	129	12/04/86	143	7.8	1.9	83.8	1.73	3.1	0.13	16.4	4.5	5.8	1.4	117.3	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
BR MCB	32	02/04/86	191	7.6	3.8	84.9	1.72	4.6	0.18	17.6	4.7	5.4	2.0	121.8								
BR MCB	81	07/21/86	117	8.0	21.0	97.3	1.65	1.4	0.10	18.4	5.0	6.0	1.9	132.1								
BR MCB	122	12/02/86	140		2.8	82.0	1.51	3.0	0.07	16.6	4.5	5.3	1.4	114.6								
BR MCB	165	02/09/87	150		4.0	99.5	2.23	2.9	0.18	18.4	4.9	5.6	1.6	125.9								
BR MCB	169	02/10/87	140		4.0	84.0	1.38	3.0	0.12	15.6	4.6	5.7	1.5	116.3	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
CF NWB	1	02/03/86	291	8.2	2.5										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
CF NWB	2	02/03/86	291	8.2	2.5	145.7	3.04	24.0	0.15	36.1	10.2	7.2	2.5	229.3								
CF NWB	62	07/24/86	390	8.4	21.5	145.5	3.79	18.5	0.02	34.4	10.8	5.8	1.6	219.9	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
CF NWB	99	11/29/86	290	8.2	4.0	158.8	2.94	39.7	0.07	43.5	12.0	8.2	2.2	267.6	0.006	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.20
CF NWB	140	02/07/87	288		1.0	161.4	3.62	39.9	0.13	43.2	12.9	7.9	2.0	271.5	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.02
CF RS	21	02/04/86	387	7.9	2.5										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
CF RS	22	02/04/86	387	7.9	2.5	143.8	3.20	31.4	0.15	36.3	10.6	7.2	3.1	236.2								
CF RS	73	07/26/86	326	8.1	18.2	145.6	1.68	15.9	0.01	34.0	10.6	6.0	1.6	216.4	0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
CF RS	112	11/30/86	289	7.6	2.2	156.5	2.61	37.5	0.17	42.0	12.0	8.0	2.1	281.5	<0.005	<0.001	0.04	<0.03	<0.01	<0.001	<0.02	0.03
CF RS	151	02/08/87	294		1.0	159.5	3.45	33.5	0.15	42.0	12.5	7.7	2.1	266.4	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.02
MV-BLK	60	02/05/86													<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-BLK	66	07/25/86				0.2	BDL	BDL	0.02	BDL	BDL	0.07	BDL		<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-BLK	82	07/26/86				BDL	BDL	BDL	BDL	BDL	BDL	0.2	BDL									
MV-BLK	108	11/29/86				0.1	<0.01	<0.5	0.01	<0.1	0.01	0.05	<0.1									
MV-BLK	109	11/29/86													<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.01
MV-BLK	120	12/01/86				0.2	<0.01	<0.5	0.02	<0.1	0.01	0.05	<0.01									
MV-BLK	133	12/05/86				50.2	0.90	<0.5	0.05	10.7	3.1	1.6	0.5	67.5								
MV-BLK	148	02/08/87				0.06	<0.01	<0.5	0.01	<0.1	<0.01	0.04	<0.01									
MV-BLK	150	02/08/87													<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.02
MV-BLK	162	02/09/87				0.04	<0.01	<0.5	0.01	<0.1	<0.01	0.04	<0.01									
MV-BLK	174	02/11/87				0.07	<0.01	<0.5	<0.01	<0.1	<0.01	0.0	<0.01									
MV-HGE	94	07/30/86	164	7.5	13.9	118.9	1.45	3.1	0.61	28.1	7.2	2.7	0.7	162.9								
MV-HGE	128	12/03/86	274	8.2	8.0	168.9	3.64	5.4	1.21	39.6	10.9	3.8	0.7	238.3								
MV-HGE	159	02/09/87	258		9.0	174.2	4.87	4.1	1.30	40.5	11.3	4.0	0.9	245.6								
MV-PC	95	07/30/86	309	7.3	11.9	190.5	5.75	16.3	1.23	45.0	13.3	5.8	1.4	294.8								
MV-STD	61	02/05/86													0.351	0.017	0.03	0.10	<0.02	<0.001	0.03	0.06
MV-TPC	158	02/09/87	310		10.0	184.7	9.16	16.4	1.16	44.3	14.1	6.9	1.4	282.4								
MV-TPC	127	12/03/86	327	8.0	10.0	190.3	6.82	19.8	1.20	46.0	13.8	6.9	1.3	290.2								
MV- 3	6	02/03/86	313	7.2	8.0										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.10
MV- 3	7	02/03/86	313	7.2	8.0	181.1	2.39	23.1	0.35	44.6	11.7	6.4	1.7	272.3								
MV- 3	59	02/03/86													<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.10

All analyses reported in milligrams per liter.

Missoula Valley Water Quality Data

Well#	Sample	Date	SpC	pH	temp	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
MV- 3	63	07/24/86	389	7.3	10.0	170.1	1.82	12.9	0.37	39.5	10.8	5.5	1.3	243.6	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.06
MV- 3	64	07/24/86	389	7.3	10.0	166.9	1.90	14.0	0.38	39.5	10.8	5.5	1.4	241.8	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.04
MV- 3	100	11/29/86	296	7.5	10.8	181.6	2.24	21.7	0.35	44.0	11.8	6.2	1.6	270.7	0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.08
MV- 3	141	02/07/87	289		9.0	177.9	3.05	21.3	0.33	42.6	12.2	6.0	1.7	266.2	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.10
MV- 4	8	02/03/86	348	7.0	11.0	186.5	2.71	21.5	0.42	45.2	12.0	6.4	1.9	278.1								
MV- 4	65	07/24/86	371	7.1	12.0	180.0	2.88	19.1	0.63	45.5	11.2	5.7	1.7	263.7								
MV- 4	101	11/29/86	311	7.5	11.0	182.8	2.85	26.5	0.48	47.0	12.0	6.6	1.9	281.7								
MV- 4	143	02/07/87	318		10.0	188.0	4.51	38.3	0.36	51.0	13.2	7.0	1.9	305.5								
MV- 5	11	02/03/86	318	7.2	6.0	152.0	2.68	39.3	0.18	40.7	11.3	6.6	1.6	256.1								
MV- 5	67	07/25/86	374	7.2	13.7	167.7	2.28	17.2	0.54	39.5	10.9	5.5	1.5	242.9								
MV- 5	102	11/29/86	288	6.8	9.0	176.8	2.35	19.3	0.45	42.0	11.8	7.2	1.3	263.2								
MV- 5	103	11/29/86				175.7	2.37	19.5	0.45	42.0	11.7	7.1	1.7	262.1								
MV- 5	144	02/07/87	279		8.0	175.3	3.17	19.5	0.46	42.3	12.3	5.8	1.5	261.9								
MV- 6	145	02/07/87	279		8.0	175.6	3.12	19.4	0.46	42.3	12.3	5.8	1.5	262.1								
MV- 8	12	02/03/86	332	7.2	8.0										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.42
MV- 8	13	02/03/86	332	7.2	8.0	197.4	3.38	20.5	0.43	44.8	14.4	6.9	1.8	290.1								
MV- 8	68	07/25/86	333	7.1	13.0	203.5	5.26	19.6	0.51	49.4	13.9	6.9	1.8	302.5	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.03
MV- 8	104	11/29/86	332	7.6	10.3	207.1	5.72	20.1	0.41	49.5	13.8	7.0	1.8	286.7	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.40
MV- 8	105	11/29/86													<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.33
MV- 8	142	02/07/87	305		8.5	196.3	4.94	18.7	0.53	47.5	13.6	6.5	1.7	291.6	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.32
MV- 9	14	02/03/86	331	7.0	10.0	184.3	3.09	20.7	0.71	43.3	12.4	6.4	1.8	275.3								
MV- 9	69	07/25/86	563	6.8	13.5	180.4	5.89	19.4	0.61	45.0	12.0	7.0	1.6	273.7								
MV- 9	106	11/29/86	311	6.9	10.5	188.4	3.64	21.7	0.57	46.0	12.5	7.4	1.8	284.0								
MV- 9	146	02/08/87	265		10.0	176.4	4.09	17.4	0.98	42.5	12.1	6.1	1.7	264.2								
MV-10	15	02/03/86	373	7.2	10.0										<0.005	<0.005	0.08	<0.05	<0.02	<0.001	<0.02	0.09
MV-10	16	02/03/86	373	7.2	10.0	167.4	4.77	28.2	0.39	43.2	11.3	6.8	1.9	265.4								
MV-10	17	02/03/86	373	7.2	10.0	174.2	4.75	27.4	0.38	43.9	11.8	6.8	1.9	272.7								
MV-10	70	07/25/86	521	7.2	11.0	163.5	3.40	17.9	0.66	40.4	10.7	7.0	1.6	247.4	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.02
MV-10	107	11/29/86	298	7.3	10.1	166.3	2.94	24.6	0.45	42.0	11.6	6.3	1.7	257.4	<0.005	<0.001	0.05	<0.03	<0.01	<0.001	<0.02	0.05
MV-10	156	02/09/87	286		10.0	170.0	4.40	23.0	0.40	44.5	11.7	7.0	1.7	269.1	<0.005	<0.001	0.11	<0.03	<0.01	<0.001	<0.02	0.09
MV-10	157	02/09/87													<0.005	<0.001	0.11	<0.03	<0.01	<0.001	<0.02	0.09
MV-11	18	02/03/86	324	7.3	9.0	183.5	5.04	12.1	1.42	41.2	12.8	6.5	1.2	263.6								
MV-12	19	02/04/86	424	7.4	5.0	169.3	3.77	29.4	0.55	42.3	12.3	6.8	1.8	268.1								
MV-12	71	07/25/86	501	7.0	11.0	171.4	3.06	19.4	0.71	41.0	11.5	6.3	1.6	257.4								
MV-12	110	11/30/86	314	7.4	9.0	176.4	4.76	29.9	0.70	47.0	12.4	7.0	1.8	282.4								
MV-12	147	02/08/87	0		7.5	181.9	5.62	26.2	0.72	46.0	12.9	7.0	1.7	284.4								
MV-14	20	02/04/86	401	7.3	13.0	158.0	2.17	34.8	0.19	42.0	11.1	6.4	2.1	257.5								
MV-14	72	07/26/86	294	7.3	9.5	138.1	1.02	14.5	0.13	32.8	8.8	5.3	1.6	202.5								
MV-14	111	11/30/86	311	7.2	12.0	162.2	2.17	38.5	0.12	45.5	11.5	6.8	2.4	268.8								
MV-14	149	02/08/87	314		13.5	158.8	3.40	40.5	0.15	44.5	11.6	6.4	2.1	268.0								

All analyses reported in milligrams per liter.

Missoula Valley Water Quality Data

Well#	Sample	Date	SpC	pH	temp	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
MV-15	25	02/04/86	448	7.1	10.0	175.5	3.51	27.1	0.48	43.9	11.6	6.8	2.2	273.2								
MV-15	74	07/26/86	354	7.0	11.0	157.2	2.82	17.6	0.49	38.0	10.0	5.6	1.8	235.2								
MV-15	113	11/30/86	306	7.4	11.0	184.3	3.05	23.3	0.45	45.0	12.2	6.4	2.1	278.3								
MV-15	152	02/08/87	323		10.0	184.7	4.21	24.7	0.49	46.0	12.6	6.5	2.0	282.9								
MV-16	26	02/04/86	459	7.1	10.0										<0.005	<0.005	0.05	<0.05	<0.02	<0.001	<0.02	<0.02
MV-16	27	02/04/86	459	7.1	10.0	189.2	4.59	27.1	0.47	45.6	13.6	6.9	2.1	291.5								
MV-16	75	07/26/86	290	7.1	12.0	180.4	3.42	20.8	0.86	43.5	12.2	6.1	2.2	272.6	<0.005	<0.005	0.03	<0.05	<0.02	<0.001	<0.02	<0.02
MV-16	114	11/30/86	317		9.5	184.2	3.81	26.2	0.53	47.5	12.6	7.0	1.9	285.7	<0.005	<0.001	0.06	<0.03	<0.01	<0.001	<0.02	0.02
MV-16	160	02/09/87	335		9.0	190.6	5.56	29.1	0.44	47.8	13.3	7.6	1.9	297.8	<0.005	<0.001	0.06	<0.03	<0.01	<0.001	<0.02	0.03
MV-17	35	02/04/86	439	6.9	7.5	179.0	2.94	30.9	0.54	45.4	12.3	7.6	2.2	282.8								
MV-18	28	02/04/86	463	7.3	9.5	192.2	3.43	25.8	0.69	45.3	14.3	6.9	1.8	293.0								
MV-18	76	07/26/86	282	7.0	11.2	195.8	3.59	24.2	0.74	47.0	13.5	6.8	2.2	296.5								
MV-18	115	11/30/86	327	8.1	10.0	197.4	3.70	25.0	0.72	48.0	13.6	7.1	1.7	299.7								
MV-18	116	11/30/86				195.5	3.78	25.0	0.73	48.0	13.7	7.2	1.7	297.9								
MV-18	153	02/08/87	323		10.0	195.5	4.38	23.9	0.68	48.0	13.9	6.7	1.6	297.0								
MV-18	154	02/08/87				194.8	4.65	23.8	0.68	48.2	14.1	6.7	1.6	296.9								
MV-19	29	02/04/86	468	7.3	10.0	199.3	3.97	25.6	0.76	45.6	14.3	8.2	2.2	302.5								
MV-19	77	07/26/86	286	7.1	12.5	198.8	4.05	22.6	0.37	47.0	13.6	7.4	2.3	299.8								
MV-19	117	12/01/86	303	7.9	11.0	198.1	4.29	23.5	0.89	47.5	13.7	7.6	1.5	300.1								
MV-19	155	02/08/87				197.8	4.79	22.2	0.77	48.4	14.0	7.2	1.8	299.6								
MV-20	30	02/04/86	486	7.2	10.0	204.1	4.11	25.5	0.92	47.3	14.8	8.4	2.0	310.3								
MV-20	78	07/26/86	334	7.4	11.7	206.3	4.29	23.3	0.98	49.2	14.5	7.5	2.6	312.1								
MV-20	118	12/01/86	341	8.0	10.0	207.1	4.26	24.4	0.90	50.0	14.3	7.8	1.6	313.5								
MV-20	161	02/09/87	339		10.5	206.4	5.00	24.4	0.87	49.4	14.6	7.8	1.8	313.2								
MV-21	33	02/04/86	476	7.1	9.0										<0.005	<0.005	0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-21	34	02/04/86	476	7.1	9.0	199.5	4.56	29.0	0.81	45.9	13.6	8.1	2.1	296.3								
MV-21	79	07/26/86	312	6.9	11.8	202.9	4.88	25.2	1.35	49.4	14.2	7.5	2.6	312.7	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-21	119	12/01/86	338	7.7	11.0	195.5	4.81	29.4	0.86	49.0	13.8	8.0	1.8	305.9	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
MV-21	163	02/09/87	331		10.5	193.6	5.74	27.2	0.85	49.2	13.9	7.8	1.8	303.0	0.005	0.001	0.02	<0.03	<0.01	<0.001	<0.02	0.02
MV-22	31	02/04/86	459	7.4	9.3	196.3	3.90	22.7	0.93	45.4	14.7	7.0	1.9	296.0								
MV-22	80	07/26/86	296	7.3	13.0	198.4	3.75	21.0	0.96	46.4	14.1	6.7	2.4	297.1								
MV-22	121	12/02/86	319	8.1	9.0	198.9	3.72	21.8	0.87	47.5	14.0	6.9	1.6	298.3								
MV-22	164	02/09/87	269		10.0	157.7	5.12	15.4	0.22	34.8	11.7	5.8	1.6	234.1								
MV-25	33	02/05/86	463	7.3	9.5	199.3	5.55	22.1	1.13	47.0	14.4	7.4	2.0	302.6								
MV-25	83	07/26/86	280	7.1	12.5	201.8	3.51	20.6	1.14	47.4	14.1	6.8	2.4	301.7								
MV-25	84	07/26/86	280	7.1	12.5	200.3	3.51	20.7	1.14	46.8	14.1	6.8	2.4	299.7								
MV-25	123	12/02/86	332	8.5	8.9	201.5	3.75	21.4	1.09	48.0	14.0	7.2	1.6	302.3								
MV-26	39	02/05/86	459	7.1	9.5	197.4	3.56	20.7	0.90	45.7	14.0	6.9	1.9	294.1								
MV-26	40	02/05/26	459	7.1	9.5	195.9	3.33	21.2	0.89	45.3	13.9	6.9	1.8	292.2								
MV-26	85	07/27/86	534	7.6	12.0	196.5	3.36	19.3	0.88	45.5	13.3	6.4	2.1	290.5								

* All analyses reported in milligrams per liter.

Missoula Valley Water Quality Data

Well#	Sample	Date	SpC	pH	temp	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
MV-26	124	12/02/86	327	8.2	9.9	196.2	3.67	21.1	0.92	48.0	13.6	7.0	1.8	295.5								
MV-26	166	02/10/87	294		8.0	200.5	3.38	18.5	0.89	47.4	13.9	7.2	1.6	296.4								
MV-27	41	02/05/86	469	7.3	10.7	197.0	4.08	23.5	0.88	46.3	13.8	7.4	2.1	298.1								
MV-27	96	07/27/86	579	7.0	12.4	194.7	4.13	21.0	1.04	46.5	13.0	7.0	2.3	293.2								
MV-27	125	12/03/86	327	8.2	10.0	198.1	3.94	25.4	0.71	49.5	13.5	7.4	1.5	302.5								
MV-27	167	02/10/87	333		10.8	203.0	3.93	23.4	0.84	49.1	14.0	7.2	1.9	306.3								
MV-28	42	02/05/86	446	7.1	9.5										<0.005	<0.005	0.02	<0.05	<0.02	<0.001	<0.02	0.11
MV-28	43	02/05/86	446	7.1	9.5	190.7	3.25	20.9	0.73	43.8	13.5	6.9	1.7	285.8								
MV-28	87	07/27/86	540	7.2	12.5	193.5	3.42	20.0	0.85	45.5	13.0	6.4	2.3	287.9	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-28	126	12/03/86	326	8.0	9.0	194.4	3.44	20.7	0.79	47.0	13.2	6.7	1.5	290.4	<0.005	<0.001	0.03	<0.03	<0.01	<0.001	<0.02	0.09
MV-28	168	02/10/87	312		9.8	196.2	3.14	18.7	0.73	46.8	13.3	6.6	1.6	292.9	<0.005	<0.001	0.02	<0.03	<0.01	<0.001	<0.02	0.09
MV-30	44	02/05/86	504	7.3	10.0	210.5	5.65	23.1	1.44	48.6	15.5	8.3	1.7	319.7								
MV-30	96	07/30/86	351	7.5	15.0	215.3	5.79	22.9	1.45	51.1	15.3	8.4	1.7	326.9								
MV-30	170	02/10/87	351		10.0	222.7	5.74	21.2	1.42	51.6	15.9	8.4	1.6	333.3								
MV-31	50	02/06/86	212	7.2	8.0										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-31	51	02/06/86	400	7.2	8.0	192.9	2.35	19.5	0.47	45.6	12.7	6.2	1.4	282.9								
MV-34	3	02/03/86	400	7.5	8.0	177.9	2.46	19.3	0.41	41.3	11.6	5.9	1.3	261.6								
MV-34	89	07/30/86	299	7.2	10.7	169.5	3.23	15.1	0.45	39.0	11.3	5.9	1.6	246.3								
MV-34	171	02/11/87	269		10.0	182.6	2.30	20.7	0.35	42.3	13.3	5.9	1.5	270.2								
MV-35	9	02/03/86	292	6.8	2.0										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.02
MV-35	10	02/03/86	292	6.8	2.0	153.2	2.48	28.5	0.18	39.8	10.8	7.0	1.4	244.1								
MV-35	90	07/30/86	256	7.3	16.2	145.6	1.78	23.5	0.13	35.4	10.0	5.8	2.0	224.5	0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-35	131	12/05/86				171.9	2.82	39.2	0.29	46.0	12.9	7.4	1.8	283.3	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.01
MV-36	4	02/03/86	279	6.8	7.0										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-36	5	02/03/86	279	6.8	7.0	149.8	3.51	15.9	0.92	33.1	11.5	6.0	1.3	225.2								
MV-36	91	07/30/86	241	6.9	11.3	138.1	3.47	11.0	1.09	31.0	9.8	5.6	1.4	205.2	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-36	97	07/30/86				139.9	3.52	10.8	1.13	30.6	10.2	5.4	1.3	206.7								
MV-36	98	07/30/86													<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-36	130	12/05/86	265		8.0	155.0	2.82	14.3	0.79	35.6	11.1	5.3	1.3	229.6	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
MV-36	172	02/11/87	258		9.0	160.0	2.64	15.2	0.61	35.8	11.2	5.3	1.2	234.5	<0.005	0.002	<0.01	0.05	<0.01	<0.001	<0.02	0.02
MV-37	23	02/04/86	433	7.0	10.3										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-37	24	02/04/86	433	7.0	10.3	175.3	3.04	29.0	0.40	43.7	12.1	6.2	2.5	275.6								
MV-37	92	07/30/86	298	7.3	14.5	156.1	2.48	12.0	0.34	35.6	9.9	5.2	1.8	224.6	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MV-37	132	12/05/86				189.1	2.67	23.2	0.31	47.0	12.8	6.1	2.0	284.2	<0.005	<0.001	<0.01	0.05	<0.01	<0.001	<0.02	<0.005
MV-37	173	02/11/87	319		11.0	191.9	3.17	23.4	0.38	46.5	12.9	6.0	2.2	287.6	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
MV-38	36	02/05/86	540	7.3	9.0										<0.005	<0.005	<0.02	0.28	<0.02	<0.001	0.17	<0.02
MV-38	37	02/05/86	540	7.3	9.0	233.0	3.77	26.6	1.07	55.0	16.2	9.8	2.6	351.5								
MV-38	93	07/30/86	377	7.2	16.9	233.2	5.64	22.4	0.89	55.8	15.1	9.0	2.2	347.2	<0.005	<0.005	<0.02	0.09	<0.02	<0.001	0.11	<0.02
MV-41	47	02/06/86	191	7.3	7.5	77.5	1.65	4.4	0.84	16.5	5.4	3.5	0.7	113.4								
MV-42	48	02/06/86	372	7.5	15.0	177.1	5.76	19.4	0.66	40.3	13.7	6.7	1.4	266.9								

* All analyses reported in milligrams per liter.

Missoula Valley Water Quality Data

Well#	Sample	Date	SpC	pH	temp	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
MV-43	49	02/06/86	355	6.9	8.5	170.0	3.66	4.1	1.26	36.4	12.1	4.2	0.7	238.7								
MWC 3	3A	08/08/86		6.8	11	202.3	3.61	19.0	0.89	48.5	17.1	6.7	1.7	298.8								
MWC 3	55	02/12/86	452	7.1	9.0	201.5	3.38	20.9	0.76	44.5	14.6	7.2	1.8	297.2								
MWC 3	139	12/09/86				201.1	3.49	19.3	0.78	47.5	13.4	6.6	1.6	296.5	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.02
MWC 3	178	02/12/87				191.5	2.23	20.3	0.34	42.6	12.3	5.8	1.5	267.7	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.02
MWC14	54	02/12/86	494	7.4	9.5	201.5	11.70	16.0	1.83	44.4	15.2	11.6	2.0	339.4								
MWC14	14	08/08/86		6.6	11	193.7	10.7	12.5	1.54	41.5	14.9	11.2	2.1	293.4								
MWC14	137	12/09/86				179.0	2.48	18.9	0.49	43.0	12.2	6.0	1.5	265.3	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
MWC14	180	02/12/87				185.1	3.31	19.1	0.44	40.5	14.5	6.4	1.4	272.3	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
MWC20	52	02/12/86	418	7.3	8.5										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
MWC20	53	02/12/86	418	7.3	8.5	181.3	2.53	20.1	0.45	43.2	11.9	6.5	1.6	269.1								
MWC20	20	08/08/86		6.8	12	180.2	2.57	17.1	0.52	43.2	12	5.9	1.5	264.7								
MWC20	138	12/09/86				198.9	12.00	15.3	1.57	43.3	15.3	11.6	1.9	305.5								
MWC20	179	02/12/87				207.3	13.20	15.5	1.60	44.8	16.4	11.5	1.8	317.6	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	<0.005
MWC30	58	02/12/86	381	6.6	8.0	167.8	3.15	15.9	0.97	38.4	11.3	6.7	1.6	249.3								
MWC30	30	08/08/86		6.5	11	143.1	4.41	9.6	1.68	34.2	9.1	5.5	1.5	214.8								
MWC30	134	12/09/86				146.8	3.52	9.9	1.38	33.2	10.2	5.6	1.3	206.6								
MWC30	175	02/12/87				179.4	2.50	16.6	0.54	40.9	12.0	5.8	1.2	260.8								
MWC32	57	02/12/86	406	7.1	7.0	175.3	2.39	24.4	0.33	43.6	11.5	6.5	1.6	266.7								
MWC32		08/08/86		6.5	11.0	170.0	1.97	15.8	0.36	40.4	10.6	5.7	1.6	247.4								
MWC32	135	12/09/86				177.1	2.30	23.0	0.40	43.0	12.0	6.2	1.5	267.0								
MWC32	176	02/12/87				180.1	2.23	23.6	0.30	43.5	12.0	6.3	1.5	270.6								
MWC34	56	02/12/86	409	7.1	7.5	181.3	2.46	18.8	0.41	42.8	11.7	6.4	1.7	267.0								
MWC34		08/08/86		7.2	10.5	175.3	2.26	14.7	0.43	41.6	10.9	5.7	1.6	253.8								
MWC34	136	12/09/86				180.1	2.27	21.9	0.37	43.5	12.1	6.0	1.5	269.0								
MWC34	177	02/12/87				191.5	2.30	20.2	0.34	42.6	12.3	5.8	1.5	269.7								

SECTION 2

Quality Control Data

Sampling interval: 2/3/86 to 2/12/86 (Sample# 1 - 61)

Sample type	Sample#	Date	SpC (mmhos/cm)	pH	temp (°C)	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
						(Chemical analyses reported in milligrams per liter)																
Blank	60	02/05/86													<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
Duplicate	6	02/03/86	170	7.2	8.0										<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.10
	59	02/03/86													<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	0.10
Standard	61	02/05/86													0.051	0.017	0.03	0.10	<0.02	<0.001	0.03	0.06
EPA#42 NBS Standard 1643b															0.050	0.020	0.02	0.10	0.02	0.000	0.03	0.07

Sampling Interval: 7/25/86 to 7/30/86 (Sample# 62 - 98)

Sample type	Sample#	Date	SpC (mmhos/cm)	pH	temp (°C)	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
						(Chemical analyses reported in milligrams per liter)																
Blank	66	07/25/86					0.2	BDL	BDL	0.02	BDL	BDL	0.1	BDL	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
Blank	82	07/26/86					BDL	BDL	BDL	BDL	BDL	BDL	0.2	BDL								
Split	91	07/30/86	165	6.9	11.3	138.1	3.47	11.0	1.09	31.0	9.8	5.6	1.4	205.2	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
	97	07/30/86				139.9	3.52	10.8	1.13	30.6	10.2	5.4	1.3	206.7								
Split	91	07/30/86	165	6.9	11.3	138.1	3.47	11.0	1.09	31.0	9.8	5.6	1.4	205.2	<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02
	98	07/30/86													<0.005	<0.005	<0.02	<0.05	<0.02	<0.001	<0.02	<0.02

Sampling Interval: 11/29/86 to 12/5/86 (Sample# 99 -139)

Sample type	Sample#	Date	SpC	pH	temp	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
Blank	108	11/29/86					<0.01	<0.05	0.01	<0.1	0.0	0.1	<0.1									
Blank	109	11/29/86													<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.01
Blank	120	12/01/86				0.2	<0.01	<0.5	0.02	<0.1	0.0	0.1	<0.01									
Blank	133	12/05/86				50.2	0.90	<0.5	0.05	10.7	3.1	1.6	0.5	67.5								
Duplicates	102	11/29/86	172	6.8	9.0	176.8	2.35	19.3	0.45	42.0	11.8	7.2	1.8	263.2								
	103	11/29/86				175.7	2.37	19.5	0.45	42.0	11.7	7.1	1.7	262.1								
Duplicates	104	11/29/86	205	7.6	10.3	207.1	5.72	20.1	0.41	49.5	13.8	7.0	1.8	286.7	<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.40
	105	11/29/86													<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.32

Sampling Interval: 2/7/87 to 2/12/87 (Sample# 140 - 180)

Sample type	Sample#	Date	SpC (mmhos/cm)	pH	temp (°C)	HCO3	Cl	SO4	NO3-N	Ca	Mg	Na	K	TDS	As	Cd	Cu	Fe	Pb	Hg	Mn	Zn
						(Chemical analyses reported in milligrams per liter)																
Blank	148	02/08/87				0.1	<0.01	<0.5	0.01	<0.1	<0.01	0.0	<0.01									
Blank	150	02/08/87													<0.005	<0.001	<0.01	<0.03	<0.01	<0.001	<0.02	0.02
Blank	162	02/09/87				0.0	<0.01	<0.5	0.01	<0.1	<0.01	0.0	<0.01									
Blank	174	02/11/87				0.1	<0.01	<0.5	0.01	<0.1	<0.01	0.0	<0.01									
Duplicate	144	02/07/87	163		8.0	175.3	3.17	19.5	0.46	42.3	12.3	5.8	1.5	261.9								
	145	02/07/87	163		8.0	175.6	3.12	19.4	0.46	42.3	12.3	5.8	1.5	261.1								
Duplicate	153	02/08/87	198		10.0	195.5	4.38	23.9	0.68	48.0	13.9	6.7	1.6	297.0								
	154	02/08/87	198		10.0	194.8	4.65	23.8	0.68	48.2	14.1	6.7	1.6	296.9								
Duplicate	156	02/09/87	175		10.0	170.0	4.40	23.0	0.40	44.5	11.7	7.0	1.7	269.1	<0.005	<0.001	0.11	<0.03	0.01	<0.001	<0.02	0.09
	157	02/09/87													<0.005	<0.001	0.11	<0.03	<0.01	<0.001	<0.02	0.09

APPENDIX 6B

Spring 1987 Water Quality Sampling Results

This appendix presents the results of a large scale sampling effort focussed on the western portion of the aquifer. The most intense sampling was west of Reserve Street. The second section presents quality control data.

SECTION 1

Water Quality Results

LEGEND

LOCATION (USGS CLASSIFICATION)

X T13NR19W
Y T13NR20W
Z T12NR19W
V T12NR20W

DATE

Sampling date

DEPTH

Well depth from field measurement or drillers log (ft)

CASING HEIGHT

Height of casing above ground (ft)

WATER LEVEL

Static water level from top of casing (ft)

COL

Results of testing for coliform bacteria

<1 less than on colony
HGWO heavy growth without apparent coliform
TNWC too numerous to count with coliform
TNWO too numerous to count without coliform
CGWC confluent growth with coliform
CGWO confluent growth without coliform

TEMP

Temperature in °C

COND

Specific conductance (umhos/cm)

MAJOR ANIONS, CATIONS AND TDS

concentrations in mg/l

TRACE METALS AND METALOIDS

concentrations in mg/l

< denotes below detection limit (# located beneath symbols)

well#	T/R	S	Tract	Address	Owner	Date	Depth	Casing Ht	W.L.	COL	Temp	Cond	pH	HCO3	Cl	SO4	NO3	Ca	Mg	Na	K	TDS
1	X	19	CDCAD	3003 James	M.A. Schiweck	06/01/87	45	1	14.61	<1 COL	10.5	205	7.4	198.3	4.41	25.1	0.64	49.1	13.6	7.5	2	302.9
2	Y	26	AAAA	711 Clements Ave.	T. McOmber	06/09/87			no access	<1 COL	14	225		160	2.29	22.6	0.45	38.9	11.3	6.1	1.9	245.1
3	Y	26	DBDAC	1903 Woodlawn	S. Steenens	06/10/87	50		no access	CBWC	13	250		203.4	4.11	19.7	0.9	45.8	14.5	7.2	1.8	300.5
4	Y	26	DBABA	1606 Pleasant Ave.	Lynch	06/10/87	107		no access	<1 COL	12	250		202	4.9	18.9	0.94	46.8	14.3	7.8	1.9	300.8
5	Y	25	DDABB	3335 North Ave W.	T. Larson	06/04/87	70		no access	<1 COL	12	220	7	202.6	3.67	19.5	1.09	47.1	13.6	7.5	1.8	300.6
6	Y	24	DCAA	3619 S.3rd W.	H. Livesey Jr.	05/28/87	74		9.65	<1 COL	114	241	7.8	197.8	3.76	23.8	0.66	47.6	13.8	6.9	1.9	298.5
9	Y	35	BBDC	4736 Sundown Rd.	D.T. Gonnick	06/02/87	103.7	1.5	12.8	<1 COL	11.8	208	7.5	205.9	4.1	23.7	1.03	47.7	15.2	7.7	1.8	310.7
11	Y	35	BCAB	4741 Sundown Rd.	B.M. Austin	06/02/87	58	1.37	18.85	<1 COL	12	239	7.8	201.6	4	39.4	0.33	49.5	15.7	8.2	2.5	322.4
12	X	19	AAACC	2536 River Rd.	E.M. Hallano	06/01/87	90	-5.4	7.4	24 COL	10.5	180	7.6	170.7	1.72	27.9	0.38	43.4	11.8	6.1	2.1	265.4
13	Y	35	AACBD	4252 Sundown Rd.	D. Hendricksen	06/24/87	75			<1 COL	13	272		195.1	4.45	38.1	1.43	44.2	18.5	9.5	1.7	317.9
15	Y	26	DABA	4219 Mount Ave.	L.A. Sims	06/11/87	76		11.37	3 COL	12	251		206.6	5	20.7	0.93	48.5	14.5	8	1.9	309.3
16	Y	26	DCCC	2312 Humble Rd.	S. Sager	06/11/87			no access	<1 COL	12	260		214.5	4.95	21.3	1.15	50.9	15.3	7.9	2	321.9
17	Y	25	BCBB	4032 Spurgin Rd.		06/24/87	50		no access	<1 COL	13	230		204.8	4.3	21.4	0.82	47.8	14.1	8.6	1.8	306.4
19	Y	25	CCDC	3912 South Ave	D.J. Burrell	06/22/87		-5.05	12.98	<1 COL	11	272	5.9									
20	Y	26	AAAB	4133 S.7th W.	J.W. Breazeal	06/09/87	60		no access	<1 COL	13	265		205.9	4	23.8	0.73	48.8	14.2	7.3	2	309.2
22	Y	35	BCBB	4811 Sundown Rd.	T. Swearingen	06/24/87	65		no access	<1 COL	13.1	285		227.4	3.12	27.8	0.83	51.1	17.4	7.9	1.8	340.2
23	Y	25	BCDB	3940 Sun Rose Dr.	B.A. Bennett	06/24/87	63		6.02	<1 COL	12	250		207.3	5.03	22.3	0.97	49.7	14.1	8.6	1.8	313.1
25	Y	24	CACD	3810 S.3rd W.	S.R. Berard	05/28/87	100		11.65	<1 COL	11.5	234	7.6	194	3.69	24.3	0.44	47.5	13.3	6.9	1.9	293.5
26	X	19	CACDC	3014 S.3rd W.	T. Hitchcock	06/01/87	25	0.9	13.1	35 COL	11	202	7.2	186.2	3.66	32	1.57	49.4	13	8.2	2.2	301.6
27	X	19	CCCCC	3244 S.7th W.	K.T. Gelderman	06/11/87	50		no access	<1 COL	14	200		190.2	3.8	22.4	0.55	48.2	12.8	6.6	1.8	288.2
28	X	19	DCCAB	706 Gary Dr.	R.A. Fangsrud	06/03/87	32.1	-3.5	11.1	<1 COL	12.3	221	7.6	191.9	4.67	27.7	0.68	47.9	13.1	7.4	1.6	297.3
29	Y	24	CBCDC	4028 S.3rd W.	E.H. Wolff	05/28/87	95		9.47	<1 COL	10.9	255	7.5	199.1	3.83	25.6	0.71	47.6	14.1	7	1.8	302.2
31	X	30	ADBBC	1310 27th Ave	A. Erhart	06/04/87	75		34.24	<1 COL	14	255	7.9	188.7	5.01	17.7	0.86	44.3	12.4	8.3	1.5	291.7
33	Y	26	BBCD	1250 Lena Ln.	Rancourt	06/10/87	48		12.05	38 COL	13.1	272		205.9	4.11	24.9	0.84	48.3	14.9	7.6	2.1	311.5
34	Y	25	ADBBD	3509 Norman Dr.	Mock	06/24/87	60		9.41	3 COL	12.5	241		201.6	4.3	21.4	0.91	48.2	13.8	7.7	1.8	302.8
35	Y	35	AABBA	4221 South Ave W.	T. Kroll	06/02/87	92		no access	<1 COL	10.5	193	7.3	212.6	4.05	20.6	1.04	49.1	14.8	7.5	1.9	315.2
36	Y	26	BAACA	1060 Spurgin Ct.	J.P. Wester	06/09/87	47		8.58	CBWD	13	275		207.3	4.16	26.1	0.8	49.1	14.5	7.7	2.2	314.6
37	Y	35	BADDA	2703 Humble Rd.	B. White	06/02/87	103.3	2.45	19.94	<1 COL	10.9	221	7.3	213	4.43	22.2	1.07	49.3	15.2	7.6	1.9	318.4
38	Y	26	ADBB	4303 Spurgin Rd.	J.A. Cordier	06/09/87	60			<1 COL	12	270		209.8	5.17	24.1	1.14	50.4	14.4	8.3	2.3	319.5
40	X	30	DCCD	2816 South Ave W.	G. Ramer	06/09/87			no access	<1 COL	11.8	260		206.9	4.2	17.8	1.21	47.9	14.2	8.2	2.3	306.9
43	Y	25	DCACD	3540 W.Central Ave.	J. Stove	06/04/87	30		no access	<1 COL	10.9	230	7.4	217.7	4.91	22	1.9	50.9	14.7	9.1	1.8	329.7
45	Y	25	DCCBC	2214 37th Ave.	C.L.Clevenger	06/04/87	85	-5	12.65	<1 COL	10.6	210	7.4	204.8	4.27	19.6	1.19	48.7	14.1	7.6	1.8	306.1
46	Y	26	DCADC	4314 Central Ave. W.	R.J. Warner	06/11/87	60		no access	<1 COL	11.5	260		209.8	4.41	20.1	1.33	50.2	14.9	8	1.7	315
47	Y	25	BDDBD	3727 Rosecrest Dr.	L.K. Eisenman	06/22/87	90	-4	19.5	<1 COL	10.9	248	6.7									
48	X	19	DABAC	2609 Laurie Dr.	P.A. Schiweck	06/03/87	51.5	1.2	16.8	TNWC	14	212	7.7	191.9	4.81	29.9	0.53	48.8	13	7.2	1.9	299.9
49	Y	25	AAAAC	3315 S.7th W.	Staves	06/24/87			no access	<1 COL	12.2	250		199.1	4.63	24.4	0.61	48.2	13.6	7.6	1.8	302
50	Y	23	DDCBD	4230 Judith Dr.	V.L. Zentner	06/24/87	58		7.71	<1 COL	13	243		205.1	3.95	24.2	0.82	49	14.2	7.8	1.7	309.6
51	Y	25	ABDB	3538 Norman Dr.	C.C. Dawson	06/24/87	60		9.92	TNWD	12.3	240		199.8	4	21.4	0.8	47.4	13.7	7.7	1.8	299.3
52	Y	25	DDBAA	3405 North Ave W.	F. Mitchell	06/04/87	70		no access	<1 COL	11	203	7.3	202.3	3.88	14.4	1.01	47.3	13	7.6	1.7	294.7
53	Y	26	CADDA	1919 Humble Rd.	P. Tingley	05/23/87	60		no access	<1 COL	10.9	211	7.4	203	3.95	20.7	0.99	48.3	14.2	7.3	1.5	303.3
54	X	30	CBCC	1910 29th Ave	C.R. Sparks	06/04/87	87		30.1	<1 COL				200.7	3.43	17.8	0.84	46.8	12.8	7.5	1.6	294.4
55	Y	26	DADDC	1816 42nd Ave.	Vasser	06/10/87	80		20.4	<1 COL	12	235		202.1	4.25	20	0.94	46.6	14.4	7.3	2.2	301.5
57	X	30	BBDB	916 Gladys Dr.	R. Duffener	06/04/87	65		no access	<1 COL	13	255	B	201.1	4.79	22.6	0.83	48.7	13.1	7.5	1.6	303.1
60	Y	25	DDCDC	3416 South Ave W.	Miller	06/04/87	91	1.2	20.28	CBWD	10	237	7.8	217.3	3.98	21	1.03	50	14.2	7.6	1.8	316.8
62	Y	26	DDCDB	2307 Pauline Dr.	J.V. Puckett	06/11/87	79		20.01	<1 COL	12	252		210.2	4.41	19.8	1.21	49.4	15.1	7.6	2.1	314
63	X	30	DCDAD	2211 27th Ave.	Yager	06/09/87	62		no access	<1 COL	11.8	241	6.6	202.3	3.66	18.7	0.99	46.8	14	7.5	2.3	299.7
64	X	19	CDCCD	2722 S.7th W.	B. Owen	06/11/87	25-30		no access	<1 COL	13	232		196.9	4.49	27	0.71	49.3	13.9	7	1.8	303.5
65	Y	24	DCCD	3610 S.7th W.	Bever	05/28/87	64		8.52	<1 COL	12.1	460	7.65	201.9	3.76	22.7	0.74	47.7	14.2	7.3	1.7	302.5
67	Y	26	CACC	4603 Edward	A. Hay	05/23/87	60		18.92	15 COL	11.5	210	7.3	202.5	3.74	20.2	0.93	47.2	14.6	7.1	1.7	301.2

68	X 19 DDDDC	2514 S.7th W.	D. Tupper	06/11/87	50		no access	THWC	12	220		189.7	4.73	18	1.1	45.3	13.1	7.3	1.7	284.3
69	X 30 DDBBB	2004 27th Ave.	Roberts	06/04/87	70		no access	<1 CDL	13.5	245	8.1	195.1	3.36	19	0.82	45.6	12.7	7.3	1.6	288.3
70	Y 26 BBCA	4885 Sourgin Rd.	L.M. Jakub	06/10/87	48		13.19	<1 CDL	11.5	250		200.8	4.11	27.4	0.81	48.9	14	7.5	2.3	306.5
73	Y 25 CDBB	3835 North Ave	K.L. Markette	06/22/87	75	1.77	9.8	<1 CDL	11.2	253	6.63									
74	Y 25 DCCBA	3625 Central Ave.W.	M.J. Flanagan	06/04/87	60		no access	<1 CDL	11	219	7.5	206.2	4.17	19.8	1.18	47.1	14.1	7.7	1.9	306.2
75	Y 26 DDACB	4124 Colonial Ln.	S. Gallagher	06/10/87	88		13.62	<1 CDL	12	269		213	4.58	22.3	1.13	49.9	14.8	7.6	2.4	319.6
79	Y 35 ABBA	4401 South Ave W.	M. Chandler	06/24/87	62		no access	<1 CDL	12.5	250		214.5	4.08	21.3	1.06	49.7	14.9	7.9	1.7	318.8
80	X 30 BCAB	3125 Sourgin Rd	Dept State Lands	06/04/87	75		no access	C6WD	12	245	7.9	193.7	4.52	18.9	1.01	45.9	12.5	7.6	1.6	289.2
81	Y 26 CBACD	4716 Bitterroot Dr.	L.G. Deninger	05/23/87	55		8.51	<1 CDL	10.2	205	7.3	201.9	3.62	19.9	0.95	46.7	14.5	7.1	1.6	299.5
82	Y 24 CDCAC	3817 S.6th W.	K.K. Zeller	05/28/87	55		10.75	<1 CDL	11.8	297	7.6	201.9	3.71	23.5	0.72	48.5	14	7	1.7	303.5
83	Y 25 DCADD	2117 35th Ave.	R.A. Norick	06/04/87	70		no access	<1 CDL	10.2	211	7.6	205.9	3.93	20	1.05	47.6	13.9	7.6	1.8	305.4
84	Y 35 BABB	4675 South Ave W.	F. Stewart	06/24/87	110		22.97	1 CDL	13	255		217.7	4.68	25.1	1.08	50.3	16.1	8.2	2	328.9
87	Y 25 BABB	3835 S.7th W.	R.L. Richards	06/22/87	-20		no access	<1 CDL	12.8	258	7.6									
88	Y 26 CACC	4636 Edward Ave.	J.F.Kirkpatrick	05/23/87	60		no access	<1 CDL	11	220	5.7	213	4.12	20.6	1.14	50	14.8	7.6	1.7	316.9
89	Y 25 DCBBA	2625 North Ave W.	J. Neidt	06/24/87	98		25.15	<1 CDL	12	240		205.5	3.95	19.6	1.08	47.8	14	7.6	1.6	304.8
94	Y 25 BADD	3720 Sourgin Rd.	D. Huse	06/22/87	88	1.5	10.9	21 CDL	12	239	6.9									
102	X 25CDDA	1927 37th Ave.	T. Stocking	06/04/87	50.5		no access	<1 CDL	13	250	8	194.8	4.91	27.1	0.55	47.9	13.4	7.3	1.6	299.5

Missoula Valley Study - Westside wells (west of Reserve)

well#	sample#	Location	Address	Owner	Date	Depth	Casing Ht	W.L.	CDL	Temp	Cond	pH	HCO3	Cl	SO4	NO3	Ca	Mg	Na	K	TDS
MV14	193	X 18 DDA0	1105 Clarkfork Dr.	Humane Society	05/31/87	70		16.74	<1 CDL	11	180	7.6	165	2.57	35.3	0.19	45.6	11	6.8	2.1	269.2
MV15	195	X 19 AAD1	2528 Krysty Dr.	V. Emmery	05/31/87	40		12.17	12 CDL	14	202	7.1	177.9	2.97	35.1	0.47	48	12.7	6.7	2.4	287.9
MV16	196	X 19 DCA2	2727 S.3rd W.	Caras Nursery	05/31/87	43		15.69		13	210	7.1									
MV18	197	Y 24 CDC2	3804 S.7th W.	R. Potter	05/31/87	65	2	10.27	THWD	13	215	7.3	199.1	3.63	23.7	0.61	48.6	13	7.2	2	299.9
MV19	198	Y 25 BBC1	4040 Rosebriar	G. Mithchell	05/31/87	82	1.5	10	20 CDL	14.2	222	7.2	203.7	3.77	20.9	0.7	48.6	13.7	7.5	1.9	303.2
MV20	199	Y 26 ABC1	4412 Sourgin Rd.	J. Tripp	05/31/87	40	0.8	7.39	<1 CDL	13.5	230	7.5	210.5	4	23.5	0.81	51	14	7.9	2	316.5
MV21	200	Y 26 BCA2	4785 Sourgin Rd.	P. Flink	05/31/87	47	1	12.02	<1 CDL	12	212	7.3	195.5	4.84	27.4	0.9	49.2	13.8	8.1	2	304.8
MV22	201	Y 26 DAD3	4202 North Ave	J. King	05/31/87	80		22.08	<1 CDL	13	255	8	201.9	3.53	19.7	0.94	47.2	14.2	7.2	1.9	299.8
MV26	202	X 30 CDC2	3020 South Ave W.	Trinity Baptist	05/31/87	83	1.5	26.77	<1 CDL	11	230	8.2	197.3	3.09	17.7	0.82	45.7	12.9	7.1	1.8	289.2
MV27	204	Y 25 AAC3	3434 Sourgin Rd.	L. Steel	05/31/87	57	0	10.68	<1 CDL	13	250	8.2	193	3.95	20.4	0.96	47.1	12.8	7.3	1.9	290.7
MV28	205	X 30 ADC3	1520 S.27th W.	D. Scott	05/31/87	65	1	32.35		11.5	230	8	195.8	3.62	18.3	0.96	45.9	12.8	7.1	2	289.8
MV38	215	X 34 BBB	South Ave Monitoring Well#5		06/02/87	37		6.54	<1 CDL	11	290	7.8	237.8	5.95	23.8	1.27	57.1	16	9.3	2.2	357.8
MV23		Y 35 BBB1	2409 Hanson	J. Bauer	05/31/87	96	-2			Not sampled for water quality											
MV24		Y 35 ACC2	2900 Humble Rd.	R. Kanpitsch	05/31/87	60	-5.6	11.3		Not sampled for water quality											
MV17		Y 24 DAB1	241 Tower	B. Trollope	05/31/87	42	1			Not sampled for water quality											
MV25		Y 25 CDC2	3802 South Ave W.	Church of God	05/31/87	102	0	21.13		Not sampled for water quality											
MV40		X 30 CAB	State Lands Monitoring Well#7		06/02/87	50		23.69		Not sampled for water quality											

Missoula Valley Study - (wells east of Reserve)

well#	sample#	Location	Address	Owner	Date	Depth	Casing Ht	W.L.	CDL	Temp	Cond	pH	HCO3	Cl	SO4	NO3	Ca	Mg	Na	K	TDS
CFNWB	181		Clark Fork R., North	Walking Bridge	05/19/87	Surface water samp		25.78	C6WC	13.8	123	8	105.5	1	8.4	0.01	22.4	7.4	3.2	1.1	149
MV03	182	X 22 DDC7	828 Ronald St.	D. McClay	05/19/87	80		59.32	<1 CDL	11	180	7.8	179.7	2.32	24.7	0.33	43.8	11.9	6.1	1.7	257
MV04	183	X 21 ACB2	Champion Scale House		05/20/87			35.06	<1 CDL	10	198	7.2	185.8	2.38	24.5	0.32	46	12	6.8	1.8	256.2
MVHSE	184	X 7 CAD3	Hellgate Elementary	School	05/28/87				<1 CDL	11.8	162	7.6	179	4.7	4.1	1.28	40.9	11.2	4.2	1	250.8
MVTFC	185	X 18 ADD	3550 Mullan Rd.	21st Cen. Plastics	05/28/87				<1 CDL	13	218	7.3	199.4	7.46	16.7	1.29	47.5	14	7.2	1.6	299.6
MV12	186	X 17 CAD3	Humane Design	Architect	05/28/87				<1 CDL	13	122	7.6	101.2	0.57	10.4	0.14	22.8	6.3	3.7	1.7	147.3
MV10	187	X 17 DDD1	1660 W.Broadway	Greyhound	05/28/87	60.5		24	<1 CDL	13	200	7.4	175	5.45	26	0.33	47.8	11	7.8	2	276.5
MV06	189	X 21 ABB4	1010 W.Broadway	Rancho Motel	05/28/87	58		36.17	<1 CDL	13	169	7.6	165.4	2.28	16.8	0.47	39	10.7	6	1.6	243.9
MV08	190	X 20 AAD2	1509 River Rd.	Mobile City Trailo	05/28/87	103		no access	<1 CDL	13.5	190	7.5	193.6	3.65	17	0.75	45.5	13	6.7	1.7	284.5

	well#	T/R	S	Tract	Address	Owner	Date	Depth	Casing Ht	W.L.	COL	Temp	Cond	pH	HCO3	Cl	SO4	NO3	Ca	Mg	Na	K	TDS
MV09	191	X	20	ADB3	1931 River Rd.	M. Malcom	05/28/87	50		no access	<1	COL	11	180	7.4	191.2	3.48	20.9	1.03	47	12.7	6.9	2.1	288.8
MV30	209	X	31	DDC	3912 Brooks St.	Fireplace Center	06/01/87	48		34.86	<1	COL	11	265	8	224.2	5.82	20.9	1.55	54.1	15.6	8.8	2	338.3
MV36	211	X	22	ADC	Gregoory Park, monitoring well#3		06/02/87	47		22.75	<1	COL	8.8	165	7.4	151	2.84	14.9	0.66	34.8	10.7	5.7	1.3	224.2
MV34	212	X	22	CDA	Madison St.Bridge, monitoring well #1		06/02/87	53		34.08	57	COL	9	195	7.6	164.7	2.72	19.4	0.47	40.1	11.1	6.4	1.6	248.1
MV35	213	X	21	ADC	McCormick Park, monitoring well #2		06/02/87	57		29.15	<1	COL	12.5	162	7.8	125.2	1.36	19	0.11	30.6	8.3	4.6	1.5	191.1
MV37	214	X	19	AAA	Reserve St., monitoring well #4		06/02/87	38		14.61	<1	COL	11	192	7.8	159.3	1.39	21.7	0.26	40	10.8	5.2	1.5	241
MV39	215	V	1	ABA	Buckhouse Bridge, monitoring well #6		06/02/87	38		24.51	<1	COL	11	290	7.8	237.8	5.95	23.8	1.27	57.1	16	9.3	2.2	357.8
MWC14	217	X	32	DDD	Russell St.	Mt. Water Well	06/03/87				<1	COL				212.3	12.1	15	1.75	45.4	16.5	12.1	2	323.2
MWC20	218	X	20	DDC	Catlin St.	Mt. Water Well	06/03/87				<1	COL				187.2	2.63	19.3	0.45	45	12.2	6.2	1.6	276.1
MWC3	219	X	28	DCD	South Ave.	Mt. Water Well	06/03/87				<1	COL				199.8	3.43	20.3	0.78	46.8	13.5	7	1.6	295.9
MWC30	220	X	22	CBD	Bank St.	Mt. Water Well	06/03/87				<1	COL				145.7	3.51	10.9	1.2	33	10	5.7	1.3	215.4
MWC32	221	X	22	CDA3	Arthur Ave.	Mt. Water Well	06/03/87				<1	COL				165	2.02	18	0.31	39	11	5.9	1.5	243.8
MV01		X	27	ABA				48.5					Not sampled for water quality											
MV02		X	22	AAD6	1250 Monroe St.	Earl Martel	05/19/87	20		8.99			Not sampled for water quality											
MV05		X	21	ADB3	501 Front St.	Western Mt.Clinic	05/23/87	99		52.01			Not sampled for water quality											
MV07		X	21	BCB5	1309 Idaho St.	W. Ritchie		55		26.56			Not sampled for water quality											
MV11		X	17	ACD2	2304 W.Broadway			94					Not sampled for water quality											
MV12		X	17	CAD3	2425 Mullan Rd.	Humane Architect	05/23/87	43		15.72			Not sampled for water quality											
MV13		X	17	CBB4	2900 Mullan Rd.	Daily's Inc.	05/22/87	63		21.61			Not sampled for water quality											
MV29		X	29	BCA	1405 Eaton	F. Joesoh	06/02/87	79		38.27			Not sampled for water quality											
MV31		X	29	DAD	1903 Russell St.	Montana Power	06/02/87	110		39.44			Not sampled for water quality											
MV32		X	33	BDC	Patty Ck. Rd. & Stevens	Storm Drain	06/02/87	51		45.92			Not sampled for water quality											
MV33		X	34	BAC	Dornblazer Field		06/02/87			63.69			Not sampled for water quality											

METAL AND METALOID ANALYSES

well#	Al	As	Ca	Cd	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	P	Si	Ti	Zn
	0.020	0.030	0.010	0.005	0.005	0.050	0.900	0.010	0.005	0.500	0.010	0.020	0.100	0.200	0.050	0.005	0.005
1	0.03	<.030	50.779	<.005	0.0048	<.050	1.7090	12.874	<.005	6.7272	<.010	<.020	<.100	<.200	6.2568	<.005	0.0352
2	0.05	<.030	41.716	<.005	0.0086	<.050	1.8976	10.672	<.005	4.9747	<.010	<.020	<.100	<.200	6.3273	<.005	0.0228
3	0.03	<.030	48.983	<.005	<.005	<.050	1.2298	14.053	<.005	6.5465	<.010	<.020	<.100	<.200	6.5758	<.005	0.0553
4	0.02	<.030	47.604	<.005	0.0118	<.050	1.6412	13.585	<.005	7.2049	<.010	<.020	<.100	<.200	6.3204	<.005	0.0783
5	0.03	<.030	48.121	<.005	0.0213	<.050	1.6995	13.006	<.005	6.7138	<.010	<.020	<.100	<.200	6.14	<.005	0.0953
6	0.04	<.030	47.497	<.005	0.0084	<.050	1.9776	13.125	<.005	6.6052	<.010	<.020	<.100	<.200	6.277	<.005	0.0645
9	0.05	<.030	51.036	<.005	<.005	<.050	1.6551	14.507	<.005	6.3254	<.010	<.020	<.100	<.200	6.8757	<.005	0.0599
11	0.03	<.030	49.233	<.005	<.005	<.050	2.2509	15.619	<.005	7.5656	<.010	<.020	<.100	<.200	10.566	<.005	0.0374
12	0.04	<.030	46.408	<.005	<.005	<.050	2.0018	11.270	<.005	5.446	<.010	<.020	<.100	<.200	6.2914	<.005	0.025
13	0.04	<.030	46.973	<.005	<.005	<.050	1.4898	18.091	<.005	7.5823	<.010	<.020	<.100	<.200	13.147	<.005	0.0142
15	0.02	<.030	49.807	<.005	<.005	<.050	1.5065	14.187	<.005	7.2789	<.010	<.020	<.100	<.200	6.5673	<.005	0.0245
16	0.04	<.030	48.498	<.005	<.005	<.050	1.6164	13.972	<.005	7.5250	<.010	<.020	<.100	<.200	6.4886	<.005	0.0071
17	0.02	<.030	47.824	<.005	<.005	<.050	0.9839	13.222	<.005	7.2403	<.010	<.020	<.100	<.200	6.2531	<.005	0.0220
19	0.05	<.030	53.998	<.005	0.0050	<.050	1.7597	14.345	<.005	8.7507	<.010	<.020	<.100	<.200	6.7758	<.005	0.0066
20	0.02	<.030	50.824	<.005	<.005	<.050	1.4198	13.754	<.005	6.8178	<.010	<.020	<.100	<.200	6.5694	<.005	0.0714
22	0.03	<.030	53.712	<.005	<.005	0.1067	1.5022	16.649	<.005	6.5562	<.010	<.020	<.100	<.200	9.0752	<.005	0.0391
23	0.03	<.030	50.057	<.005	0.0063	<.050	1.6303	13.538	<.005	7.6331	<.010	<.020	<.100	<.200	6.644	<.005	0.0071
25	0.03	<.030	47.801	<.005	<.005	<.050	1.3855	13.478	0.0396	6.662	<.010	<.020	<.100	<.200	5.4475	<.005	0.0232
26	0.03	<.030	46.535	<.005	<.005	<.050	1.9752	12.332	<.005	7.3644	<.010	<.020	<.100	<.200	6.099	<.005	0.0106
27	0.02	<.030	47.451	<.005	0.0435	<.050	1.0750	12.249	<.005	5.9878	<.010	<.020	<.100	<.200	6.2487	<.005	0.0068
28	0.04	<.030	49.803	<.005	<.005	0.1884	1.9217	12.919	0.0072	7.167	0.0203	<.020	<.100	<.200	5.9820	<.005	0.0092
29	0.05	<.030	50.694	<.005	0.0080	<.050	1.6976	13.534	<.005	6.5415	<.010	<.020	<.100	<.200	6.1526	<.005	0.0595
31	0.03	<.030	44.751	<.005	<.005	<.050	1.3612	11.926	<.005	7.3276	<.010	<.020	<.100	<.200	6.3241	<.005	0.0577
33	0.03	0.0295	50.148	<.005	0.0052	<.050	1.6392	14.313	<.005	6.9832	<.010	<.020	<.100	<.200	6.5393	<.005	<.005
34	0.02	<.030	47.985	<.005	<.005	<.050	0.9952	12.923	<.005	6.3584	<.010	<.020	<.100	<.200	6.4245	<.005	0.0334
35	0.03	<.030	50.282	<.005	<.005	<.050	1.5841	14.248	<.005	7.354	<.010	<.020	<.100	<.200	6.2732	<.005	0.0339
36	0.04	<.030	53.474	<.005	<.005	<.050	1.3333	12.956	<.005	5.5614	<.010	<.020	<.100	<.200	6.0381	<.005	0.0229
37	0.04	<.030	52.977	<.005	<.005	<.050	1.5106	13.841	<.005	5.5291	<.010	<.020	<.100	<.200	6.3461	<.005	0.0129
38	0.04	<.030	53.175	<.005	<.005	<.050	1.8524	13.895	<.005	7.6855	<.010	<.020	<.100	<.200	6.7992	<.005	0.0392
40	0.04	<.030	51.158	<.005	<.005	<.050	1.9106	13.911	<.005	7.2358	<.010	<.020	<.100	<.200	6.709	<.005	0.0964
43	0.04	<.030	55.164	<.005	<.005	<.050	1.8932	13.363	<.005	6.8485	<.010	<.020	<.100	<.200	6.2841	<.005	0.0126
45	0.04	<.030	50.207	<.005	<.005	<.050	1.8276	13.260	<.005	6.8823	<.010	<.020	<.100	<.200	6.0648	<.005	0.0465
46	0.02	<.030	50.445	<.005	<.005	<.050	1.3233	14.183	<.005	6.9924	<.010	<.020	<.100	<.200	6.6443	<.005	0.0116
47	0.05	<.030	50.998	<.005	<.005	<.050	1.4623	13.257	<.005	6.6793	<.010	<.020	<.100	<.200	6.7256	<.005	0.0048
48	0.05	<.030	52.120	<.005	0.0084	<.050	1.7559	11.897	<.005	5.1238	<.010	<.020	<.100	<.200	6.1881	<.005	0.0311
49	0.03	<.030	49.622	<.005	<.005	<.050	1.1324	12.960	<.005	6.2275	<.010	<.020	<.100	<.200	6.3305	<.005	0.0109
50	0.03	<.030	49.887	<.005	<.005	<.050	1.8215	13.781	<.005	6.7023	<.010	<.020	<.100	<.200	6.2918	<.005	0.0045
51	0.03	<.030	48.891	<.005	<.005	<.050	1.222	13.338	<.005	6.3842	<.010	<.020	<.100	<.200	6.625	<.005	0.0308
52	0.02	<.030	47.792	<.005	0.0133	<.050	1.4690	12.964	<.005	7.0947	<.010	<.020	<.100	<.200	6.168	<.005	0.0728
53	0.03	<.030	49.450	<.005	0.0191	<.050	1.4419	13.907	<.005	6.786	<.010	<.020	<.100	<.200	6.2297	<.005	0.0654
54	0.03	<.030	48.212	<.005	<.005	<.050	1.827	12.871	<.005	7.295	<.010	<.020	<.100	<.200	6.061	<.005	0.0213
55	0.03	<.030	47.872	<.005	<.005	<.050	1.4373	13.770	<.005	6.7497	<.010	<.020	<.100	<.200	6.3142	<.005	0.0271
57	0.03	<.030	52.401	<.005	<.005	<.050	1.094	12.200	<.005	5.5638	<.010	<.020	<.100	<.200	5.8692	<.005	0.0175
60	0.04	<.030	53.169	<.005	<.005	<.050	1.7782	13.483	<.005	6.4868	<.010	<.020	<.100	<.200	6.2014	<.005	0.0338
62	0.04	<.030	51.212	<.005	<.005	<.050	1.3976	14.091	<.005	6.9252	<.010	<.020	<.100	<.200	6.7603	<.005	0.0630
63	0.05	<.030	51.316	<.005	<.005	<.050	2.1214	13.583	<.005	6.6215	<.010	<.020	<.100	<.200	6.7032	<.005	0.0134
64	0.02	<.030	49.335	<.005	<.005	<.050	1.6856	13.147	<.005	6.5501	<.010	<.020	<.100	<.200	6.1616	<.005	0.0255
65	0.02	<.030	48.630	<.005	0.0086	<.050	1.3843	13.664	<.005	6.7615	<.010	<.020	<.100	<.200	6.0541	<.005	0.0834
67	0.03	<.030	47.746	<.005	<.005	0.0810	1.3118	13.970	<.005	6.4253	0.0136	<.020	<.100	<.200	6.153	<.005	0.1276
68	0.04	<.030	47.878	<.005	<.005	<.050	1.4145	12.346	<.005	6.4325	<.010	<.020	<.100	<.200	6.2527	<.005	0.0992
69	0.03	<.030	47.644	<.005	<.005	<.050	1.3783	12.873	<.005	6.4732	<.010	<.020	<.100	<.200	6.4786	<.005	0.0599
70	0.03	<.030	50.057	<.005	0.0097	<.050	1.5731	13.509	<.005	7.0143	<.010	<.020	<.100	<.200	6.3906	<.005	0.0349
73	0.03	<.030	49.523	<.005	<.005	0.2018	1.2142	13.902	0.0071	6.5688	0.0209	<.020	<.100	<.200	6.6061	<.005	0.1285
74	0.04	<.030	50.990	<.005	0.0121	<.050	2.0328	12.634	<.005	5.8219	<.010	<.020	<.100	<.200	5.9770	<.005	0.0256
75	0.05	<.030	54.197	<.005	0.0045	<.050	1.8238	14.270	<.005	6.3819	<.010	<.020	<.100	<.200	6.5314	<.005	0.0055
79	0.03	<.030	52.801	<.005	<.005	<.050	<.90	13.510	<.005	5.3878	<.010	<.020	<.100	<.200	6.0242	<.005	0.0224
80	0.03	<.030	47.022	<.005	0.0360	<.050	1.5190	12.459	<.005	7.3128	<.010	<.020	<.100	<.200	6.2920	<.005	0.0710
81	0.02	<.030	47.570	<.005	<.005	<.050	1.0983	14.203	<.005	6.7794	<.010	<.020	<.100	<.200	6.1811	<.005	0.0146
82	0.03	<.030	50.409	<.005	<.005	<.050	1.6843	13.597	<.005	6.607	<.010	<.020	<.100	<.200	6.2120	<.005	0.0932
83	0.03	<.030	49.649	<.005	0.0071	<.050	1.4786	13.208	<.005	6.9091	<.010	<.020	<.100	<.200	6.1242	<.005	0.0391
84	0.04	<.030	52.513	<.005	0.0138	<.050	1.5706	15.520	<.005	7.5953	<.010	<.020	<.100	<.200	7.1366	<.005	0.0122
87	0.03	<.030	47.517	<.005	0.0140	<.050	1.5391	12.779	<.005	6.8763	<.010	<.020	<.100	<.200	6.3306	<.005	0.1060
88	0.03	<.030	50.859	<.005	<.005	<.050	1.4884	14.531	<.005	7.2783	<.010	<.020	<.100	<.200	6.3702	<.005	0.0275
89	0.03	<.030	49.207	<.005	<.005	0.2191	1.8577	13.646	0.0078	6.5377	0.0294	<.020	<.100	<.200	6.4536	<.005	0.0604
94	0.05	0.032	48.388	<.005	0.0088	<.050	2.153	13.644	<.005	7.4075	<.010	<.020	<.100	<.200	6.693	<.005	0.0241
102	0.04	<.030	52.147	<.005	<.005	<.050	1.9795	12.458	<.005	5.4882	<.010	<.020	<.100	<.200	6.1870	<.005	0.0139

SECTION 2

Quality Control Results

Quality assurance data for gross chemistry samples

Sample#	Sample Type	HCO3	Cl	SO4	NO3	Ca	Mg	Na	K	TDS
36D	Blank	0	<0.1	<0.5	<0.01	<0.1	<0.01	<0.01	<0.01	---
75A	Duplicate	213	4.58	22.3	1.13	49.9	14.8	7.6	2.4	319.6
1075A	Duplicate	213.4	4.64	21.3	1.13	49.9	14.8	7.6	2.4	319.1
54A	Duplicate	200.7	3.43	17.8	0.84	46.8	12.8	7.5	1.6	294.4
1054A	Duplicate	200.5	3.43	18	0.82	46.8	12.8	7.6	1.6	294.4
89A	Duplicate	205.5	3.95	19.6	1.08	47.8	14	7.6	1.6	304.8
1089A	Duplicate	204.4	4	19.7	1.05	47.8	14	7.6	1.6	303.8
11A	Duplicate	201.6	4	39.4	0.33	49.5	15.7	8.2	2.5	322.4
1011A	Duplicate	201.9	3.97	39	0.32	49.4	15.8	8.3	2.6	322.4
28A	Duplicate	191.9	4.67	27.7	0.68	47.9	13.1	7.4	1.6	297.3
1028A	Duplicate	193.3	4.72	25	0.68	47.4	13.1	7.4	1.6	
28E	Blank	0	<0.1	<0.5	<0.01	<0.1	<0.01	<0.01	<0.01	---
88D	Blank	0	<0.1	<0.5	<0.01	<0.1	<0.01	<0.01	<0.01	---
88A	Duplicate	213	4.12	20.6	1.14	50	14.8	7.6	1.7	316.9
8800A	Duplicate	213	4.12	20.8	1.12	50	14.8	7.6	1.7	317
82D	Blank	0	<0.1	<0.5	0.01	<0.1	<0.01	<0.01	<0.01	---

Quality assurance data for metal samples

Sample Number	Sample Type	Al 0.020	As 0.030	Ca 0.010	Cd 0.005	Cu 0.005	Fe 0.050	K 0.900	Mg 0.010	Mn 0.005	Na 0.500	Ni 0.010	Pb 0.020	Sb 0.100	P 0.200	Si 0.050	Ti 0.005	Zn 0.005
0001E	blank	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	<.050	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0011E	blank	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	0.064	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0028D	blank	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	<.050	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0036E	blank	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	<.050	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0068E	blank	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	<.050	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0082E	blank	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	0.054	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0088e	blank	<.020	<.030	0.055	<.005	<.005	<.050	<.90	<.010	<.005	0.079	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0011B	duplicate	0.031	<.030	49.233	<.005	<.005	<.050	2.251	15.620	<.005	7.566	<.010	<.020	<.100	<.200	10.566	<.005	0.037
1011B	duplicate	0.033	<.030	49.915	<.005	<.005	<.050	2.464	15.270	<.005	7.777	<.010	<.020	<.100	<.200	10.397	<.005	0.041
0028B	duplicate	0.039	<.030	49.803	<.005	<.005	0.188	1.922	12.919	0.007	7.167	0.020	<.020	<.100	<.200	5.982	<.005	0.009
1028B	duplicate	0.035	<.030	49.549	<.005	<.005	<.050	1.558	12.697	<.005	6.623	<.010	<.020	<.100	<.200	6.231	<.005	0.010
0054B	duplicate	0.032	<.030	48.213	<.005	<.005	<.050	1.827	12.871	<.005	7.295	<.010	<.020	<.100	<.200	6.061	<.005	0.021
1054B	duplicate	0.052	<.030	48.364	<.005	<.005	<.050	2.034	11.750	<.005	5.823	<.010	<.020	<.100	<.200	6.048	<.005	0.022
0075B	duplicate	0.046	<.030	54.197	<.005	0.005	<.050	1.824	14.271	<.005	6.382	<.010	<.020	<.100	<.200	6.531	<.005	0.006
1075B	duplicate	0.020	<.030	51.084	<.005	<.005	<.050	1.685	14.293	<.005	6.927	<.010	<.020	<.100	<.200	6.646	<.005	<.005
0088B	duplicate	0.026	<.030	50.860	<.005	<.005	<.050	1.488	14.531	<.005	7.278	<.010	<.020	<.100	<.200	6.370	<.005	0.028
BB00B	duplicate	0.031	<.030	51.432	<.005	<.005	<.050	1.577	14.157	<.005	6.913	<.010	<.020	<.100	<.200	6.344	<.005	0.029
0089B	duplicate	0.027	<.030	49.207	<.005	<.005	0.219	1.858	13.646	0.008	6.538	0.029	<.020	<.100	<.200	6.454	<.005	0.060
1089B	duplicate	0.033	<.030	47.963	<.005	0.025	<.050	1.083	13.340	<.005	6.430	<.010	<.020	<.100	<.200	6.251	<.005	0.056
0002G	split	<.020	0.063	34.519	0.019	0.022	0.102	1.399	8.242	0.030	7.549	0.048	<.020	<.100	<.200	<.050	<.005	0.064
0002G	split	<.020	0.055	34.550	0.018	0.020	0.099	1.268	8.168	0.029	7.706	0.045	<.020	<.100	<.200	<.050	<.005	0.064

Quality assurance data for metal samples

Sample Number	Sample Type	Al 0.020	As 0.030	Ca 0.010	Cd 0.005	Cu 0.005	Fe 0.050	K 0.900	Mg 0.010	Mn 0.005	Na 0.500	Ni 0.010	Pb 0.020	Sb 0.100	P 0.200	Si 0.050	Ti 0.005	Zn 0.005
0026B	split	0.028	<.030	46.536	<.005	<.005	<.050	1.975	12.333	<.005	7.364	<.010	<.020	<.100	<.200	6.099	<.005	0.011
0026B	split	<.020	<.030	50.958	<.005	<.005	<.050	1.105	12.356	<.005	7.569	<.010	<.020	<.100	<.200	6.844	<.005	0.015
0033B	split	0.031	0.030	50.149	<.005	0.005	<.050	1.639	14.313	<.005	6.983	<.010	<.020	<.100	<.200	6.539	<.005	<.005
0033B	split	0.041	<.030	51.426	<.005	<.005	<.050	1.629	14.457	<.005	6.847	<.010	<.020	<.100	<.200	6.774	<.005	<.005
0055B	split	0.025	<.030	47.873	<.005	<.005	<.050	1.437	13.770	<.005	6.750	<.010	<.020	<.100	<.200	6.314	<.005	0.027
0055B	split	0.031	<.030	48.597	<.005	<.005	<.050	1.436	13.795	<.005	6.570	<.010	<.020	<.100	<.200	6.427	<.005	0.029
0065B	split	0.023	<.030	48.631	<.005	0.009	<.050	1.384	13.665	<.005	6.762	<.010	<.020	<.100	<.200	6.054	<.005	0.083
0065B	split	0.024	<.030	51.658	<.005	0.009	<.050	1.353	13.325	<.005	6.922	<.010	<.020	<.100	<.200	6.681	<.005	0.090
0068E	split	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	<.050	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0068E	split	<.020	<.030	<.010	<.005	<.005	<.050	<.90	<.010	<.005	<.050	<.010	<.020	<.100	<.200	<.050	<.005	<.005
0001G	standard	<.020	0.064	34.857	0.019	0.023	0.104	1.726	8.300	0.030	7.496	0.048	<.020	<.100	<.200	0.074	<.005	0.065
		---	0.050	---	---	0.022	0.101	---	---	0.028	---	0.050	0.024	---	---	---	---	0.067
0002G	standard	<.020	0.063	34.519	0.019	0.022	0.102	1.399	8.242	0.030	7.549	0.048	<.020	<.100	<.200	<.050	8.000	0.064
		---	0.050	---	---	0.022	0.101	---	---	0.028	---	0.050	0.024	---	---	---	---	0.067
0003G	standard	<.020	<.030	34.854	0.020	0.021	0.101	1.638	8.246	0.029	8.131	0.042	<.020	<.100	<.200	<.050	<.005	0.063
		---	0.050	---	---	0.022	0.101	---	---	0.028	---	0.050	0.024	---	---	---	---	0.067
0004G	standard	0.024	0.061	36.338	0.019	0.022	0.108	1.396	8.378	0.032	7.403	0.049	0.031	<.100	<.200	<.050	<.005	0.067
		---	0.050	---	---	0.022	0.101	---	---	0.028	---	0.050	0.024	---	---	---	---	0.067

QUALITY CONTROL FOR COLIFORM BACTERIA SAMPLING
WEST SIDE, SPRING 1987

METHOD: Total coliform membrane filter

KEY:

<1	less than on colony
HGWO	heavy growth without apparent coliform
TNWC	too numerous to count with coliform
TNWO	too numerous to count without coliform
CGWO	confluent growth without coliform
CGWC	confluent growth with coliform

DATE	SAMPLE GROUP	DUPLICAIES	COLIFORM
6/9/87	20C,36C,2C,63C,36F,38C,40C	36C, 36F	CGWO, 44
6/11/87	15C,16C,27C,46C,62C,64C,68C,68F	68C, 68F	TNWC, <1
6/10/87	33C,75C,55C,75C,75F, 1075C,C3C,4C	75C, 1075C	<1, <1
5/28/87	67C,88C,8800C,81C,53C,184,185, 186,187,189,190,191,65C,82C, 25C,29C,6C	88C, 8800C	<1, <1
6/1/87	12C,26C,1,48,28C,1028C,28F	28C,1028C,28F	<1,<1,<1
6/2/87	35C,37C,9C,11C,11F,1011C,60C, 45C,74C,43C,83C,72C,5C,52C	11C,11F,1011C	<1,<1,<1
6/5/87	31C,54C,54F,57C,69C,80C,102C	54C, 54F	<1,TNWO

APPENDIX 6C

Results of Organic Analyses

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data.

1. < means "less than". The number following the sign is the smallest amount which can be detected using this specific test.

2. > means "greater than".

3. N.D. means "none detected".
   BMDL means "Below Minimum Detection Level"

4. TNTC means "Too Numerous To Count".

5. MPN means "Most Probable Number". Used in reporting certain bacteriological results which are calculated from a statistical formula related to the bacterial count observed in a series of dilutions of the sample.

6. IU means "International Units". Used in reporting results on certain Vitamin assays.

7. CP Units means "cobalt-chloroplatinate units". Used in reporting color of aqueous solutions.

8. umhos/cm means "micromhos/cm". Used in reporting specific conductance of solutions.

9. NTU means "nephelometric turbidity units".

10. fib > 5 um/ml means "fibers greater than 5 microns in length, per ml".

11. C and F represent degrees of temperature and refer to Celsius and Fahrenheit respectively.

12. Cal means (diet) calories.

13. lb. means pound(s).

14. meq means milliequivalents, a chemical term meaning 1/1000 of the equivalent weight of a substance or element.

15. kg means "kilogram(s)". One kilogram is 1000 grams.
    g means "gram(s)". The unit of weight used in the metric system. One gram equals about 1/30th of an ounce.
    mg means "milligram(s)". One milligram is 1/1000 of a gram.
    ug means "microgram(s)". One-millionth of a gram.

16. l means "liter(s)". The unit of volume used in the metric system.
    ml means "milliliter(s)". One milliliter is 1/1000 of a liter.
    ul means "microliter(s)". One microliter is 1/1000 of a milliliter or one-millionth of a liter.

17. m3 means "cubic meter(s)". Usually used as a volume unit in air analyses.

18. ppm means "parts per million". One ppm is equivalent to one microgram per gram, or one gram per million grams. For aqueous liquids ppm is usually taken to be equivalent to milligrams per liter, because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

19. ppb means "parts per billion". One ppb is 1/1000 of a ppm.

20. % means percent or part per hundred. This is usually followed by the designation "by weight" meaning grams per hundred grams. If followed by the designation "by volume" it refers to volume per unit volume, e.g., milliliters per hundred milliliters.

* * * * * *

Clients should be aware that a most important step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

* * * * * *

WARRANTY AND LIMITATION OF LIABILITY — In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. We disclaim any other warranties, express or implied, including a Warranty of Fitness for Particular Purpose and Warranty of Merchantability. We accept no legal responsibility for the purpose for which the client uses the test results. No purchase order or other order for work shall be accepted by the company with any conditions that vary from our Standard Terms and Conditions. If Lancaster Laboratories performs work requested by the client, conditions at variance to our Standard Terms and Conditions are not part of the contract.

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171763

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#1 Madison Bridge Well Grab Water Sample
Collected on 06/24/87 (1000) by WW/KW

ANALYSIS	RESULT AS RECEIVED	LIMIT OF DETECTION	LAB CODE
Pesticides/PCB's	attached		017814000P
Purgables Method # 624	attached		052022000P
Acid Extractables	attached		055216000P
Base Neutrals	attached		055328000P
Base Neutrals (cont)	attached		055400000P

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03893 0.00 080000

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171763

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#1 Madison Bridge Well Grab Water Sample
Collected on 06/24/87 (1000) by WW/KW

Pesticides/PCB's	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Alpha BHC	< 0.02	ug/l	0.02	060900000P
Beta BHC	< 0.02	ug/l	0.02	061000000P
Gamma BHC - Lindane	< 0.02	ug/l	0.02	045300000P
Delta BHC	< 0.02	ug/l	0.02	061200000P
Heptachlor	< 0.02	ug/l	0.02	045400000P
Aldrin	< 0.02	ug/l	0.02	045500000P
Heptachlor Epoxide	< 0.02	ug/l	0.02	061500000P
DDE	< 0.02	ug/l	0.02	061600000P
DDD	< 0.02	ug/l	0.02	061700000P
DDT	< 0.02	ug/l	0.02	047800000P
Dieldrin	< 0.02	ug/l	0.02	046900000P
Endrin	< 0.02	ug/l	0.02	047700000P
Chlordane	< 0.1	ug/l	0.1	062500000P
Toxaphene	< 2.	ug/l	2.	062600000P
Endosulfan I	< 0.02	ug/l	0.02	062700000P
Endosulfan II	< 0.02	ug/l	0.02	062800000P
Endosulfan Sulfate	< 0.05	ug/l	0.05	062900000P
Endrin Aldehyde	< 0.2	ug/l	0.2	063800000P
PCB-1016	< 2.	ug/l	2.	063900000P
PCB-1221	< 2.	ug/l	2.	064000000P
PCB-1232	< 2.	ug/l	2.	064100000P
PCB-1242	< 2.	ug/l	2.	064200000P
PCB-1248	< 2.	ug/l	2.	064300000P
PCB-1254	< 2.	ug/l	2.	064400000P
PCB-1260	< 2.	ug/l	2.	064500000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis

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Chemical & Biological fields of testing
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ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

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#1 Madison Bridge Well Grab Water Sample
Collected on 06/24/87 (1000) by WW/KW

Purgables Method # 624	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Chloromethane	< 10.	ug/l	10.	082700000P
Bromomethane	< 10.	ug/l	10.	082800000P
Vinyl chloride	< 10.	ug/l	10.	082900000P
Chloroethane	< 10.	ug/l	10.	083000000P
Acrolein	< 100.	ug/l	100.	082400000P
Acrylonitrile	< 100.	ug/l	100.	082500000P
Methylene chloride	< 5.	ug/l	5.	083100000P
Fluorotrichloromethane	< 5.	ug/l	5.	079000000P
1,1-Dichloroethene	< 5.	ug/l	5.	083200000P
1,1-Dichloroethane	< 5.	ug/l	5.	083300000P
trans-1,2-Dichloroethene	< 5.	ug/l	5.	083400000P
Chloroform	< 5.	ug/l	5.	083500000P
1,2-Dichloroethane	< 5.	ug/l	5.	083600000P
1,1,1-Trichloroethane	< 5.	ug/l	5.	083700000P
Carbon tetrachloride	< 5.	ug/l	5.	083800000P
Dichlorobromomethane	< 5.	ug/l	5.	083900000P
1,1,2,2-Tetrachloroethane	< 5.	ug/l	5.	084900000P
1,2-Dichloropropane	< 5.	ug/l	5.	084000000P
trans-1,3-Dichloropropene	< 5.	ug/l	5.	084100000P
Trichloroethene	< 5.	ug/l	5.	084200000P
Dibromochloromethane	< 5.	ug/l	5.	084600000P
1,1,2-Trichloroethane	< 5.	ug/l	5.	084500000P
Benzene	< 5.	ug/l	5.	084300000P
cis-1,3-Dichloropropene	< 5.	ug/l	5.	084400000P
2-Chloroethylvinyl ether	< 10.	ug/l	10.	082600000P
Bromoform	< 5.	ug/l	5.	084700000P
Tetrachloroethene	< 5.	ug/l	5.	084800000P
Toluene	< 5.	ug/l	5.	085000000P
Chlorobenzene	< 5.	ug/l	5.	085100000P
Ethylbenzene	< 5.	ug/l	5.	085200000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Nelson H. Risser B.A.
Senior Chemist- GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

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LLI Sample No. WW 1171763

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Collected by C
P.O. 608844
Rel.

#1 Madison Bridge Well Grab Water Sample
Collected on 06/24/87 (1000) by WW/KW

Acid Extractables	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
2-chlorophenol	< 10.	ug/l	10.	064600000P
phenol	< 10.	ug/l	10.	065500000P
2-nitrophenol	< 10.	ug/l	10.	065100000P
2,4-dimethylphenol	< 10.	ug/l	10.	064800000P
2,4-dichlorophenol	< 10.	ug/l	10.	064700000P
4-chloro-3-methylphenol	< 10.	ug/l	10.	065300000P
2,4,6-trichlorophenol	< 10.	ug/l	10.	065600000P
2,4-dinitrophenol	< 25.	ug/l	25.	065000000P
4-nitrophenol	< 25.	ug/l	25.	065200000P
2-methyl-4,6-dinitrophenol	< 25.	ug/l	25.	064900000P
pentachlorophenol	< 25.	ug/l	25.	065400000P

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Chemical & Biological fields of testing

Member American Council of Independent Laboratories, Inc.

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

LLI Sample No. WW 1171763

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#1 Madison Bridge Well Grab Water Sample
Collected on 06/24/87 (1000) by WW/KW

Base Neutrals	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
N-nitrosodimethylamine	< 10.	ug/l	10.	069700000P
bis (2-chloroethyl) ether	< 10.	ug/l	10.	066700000P
1,3-dichlorobenzene	< 10.	ug/l	10.	067700000P
1,4-dichlorobenzene	< 10.	ug/l	10.	067800000P
1,2-dichlorobenzene	< 10.	ug/l	10.	067600000P
bis (2-chloroisopropyl) ether	< 10.	ug/l	10.	066800000P
hexachloroethane	< 10.	ug/l	10.	069200000P
N-nitrosodi-n-propylamine	< 10.	ug/l	10.	069800000P
nitrobenzene -	< 10.	ug/l	10.	069600000P
isophorone	< 10.	ug/l	10.	069400000P
bis (2-chloroethoxy) methane	< 10.	ug/l	10.	066600000P
1,2,4-trichlorobenzene	< 10.	ug/l	10.	070200000P
naphthalene	< 10.	ug/l	10.	069500000P
hexachlorobutadiene	< 10.	ug/l	10.	069000000P
hexachlorocyclopentadiene	< 10.	ug/l	10.	069100000P
2-chloronaphthalene	< 10.	ug/l	10.	067200000P
acenaphthylene	< 10.	ug/l	10.	065800000P
dimethyl phthalate	< 10.	ug/l	10.	068100000P
2,6-dinitrotoluene	< 10.	ug/l	10.	068400000P
acenaphthene	< 10.	ug/l	10.	065700000P
2,4-dinitrotoluene	< 10.	ug/l	10.	068300000P
fluorene	< 10.	ug/l	10.	068800000P
4-chlorophenyl phenyl ether	< 10.	ug/l	10.	067300000P
diethyl phthalate	< 10.	ug/l	10.	068000000P
1,2-diphenylhydrazine	< 10.	ug/l	10.	068600000P
N-nitrosodiphenylamine	< 10.	ug/l	10.	069900000P
4-bromophenyl phenyl ether	< 10.	ug/l	10.	067000000P
hexachlorobenzene	< 10.	ug/l	10.	068900000P
phenanthrene	< 10.	ug/l	10.	070000000P

1 COPY TO University of Montana ATTN: William W. Woessner

The American Association for Laboratory Accreditation Chemical & Biological fields of testing

Member American Council of Independent Laboratories Inc

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171763

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#1 Madison Bridge Well Grab Water Sample
Collected on 06/24/87 (1000) by WW/KW

Base Neutrals (cont)	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
anthracene	< 10.	ug/l	10.	065900000P
di-n-butyl phthalate	< 10.	ug/l	10.	068200000P
fluoranthene	< 10.	ug/l	10.	068700000P
pyrene	< 10.	ug/l	10.	070100000P
benzidine	< 25.	ug/l	25.	066000000P
butyl benzyl phthalate	< 10.	ug/l	10.	067100000P
benzo (a) anthracene	< 10.	ug/l	10.	066100000P
chrysene	< 10.	ug/l	10.	067400000P
3,3'-dichlorobenzidine	< 25.	ug/l	25.	067900000P
bis (2-ethylhexyl) phthalate	< 10.	ug/l	10.	066900000P
di-n-octyl phthalate	< 10.	ug/l	10.	068500000P
benzo (b) fluoranthene	< 10.	ug/l	10.	066300000P
benzo (K) fluoranthene	< 10.	ug/l	10.	066500000P
benzo (a) pyrene	< 10.	ug/l	10.	066200000P
indeno (1,2,3-cd) pyrene	< 10.	ug/l	10.	069300000P
dibenzo (a,h) anthracene	< 10.	ug/l	10.	067500000P
benzo (ghi) perylene	< 10.	ug/l	10.	066400000P

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The American Association for Laboratory Accreditation Chemical & Biological fields of testing

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SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

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Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171764

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#2 Blaine Well Grab Water Sample
Collected on 06/24/87 (1115) by WW/KW

ANALYSIS	RESULT AS RECEIVED	LIMIT OF DETECTION	LAB CODE
Pesticides/PCB's	attached		017814000P
Purgables Method # 624	attached		052022000P
Acid Extractables	attached		055216000P
Base Neutrals	attached		055328000P
Base Neutrals (cont)	attached		055400000P

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The American Association for Laboratory Accreditation Chemical & Biological fields of testing
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03893 0.00 080000

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Group Leader, GC/MS

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2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171764

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Date Reported 7/ 9/87
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Discard Date 7/17/87
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Rel.

#2 Blaine Well Grab Water Sample
Collected on 06/24/87 (1115) by WW/KW

Pesticides/PCB's	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Alpha BHC	< 0.02	ug/l	0.02	060900000P
Beta BHC	< 0.02	ug/l	0.02	061000000P
Gamma BHC - Lindane	< 0.02	ug/l	0.02	045300000P
Delta BHC	< 0.02	ug/l	0.02	061200000P
Heptachlor	< 0.02	ug/l	0.02	045400000P
Aldrin	< 0.02	ug/l	0.02	045500000P
Heptachlor Epoxide	< 0.02	ug/l	0.02	061500000P
DDE	< 0.02	ug/l	0.02	061600000P
DDD	< 0.02	ug/l	0.02	061700000P
DDT	< 0.02	ug/l	0.02	047800000P
Dieldrin	< 0.02	ug/l	0.02	046900000P
Endrin	< 0.02	ug/l	0.02	047700000P
Chlordane	< 0.1	ug/l	0.1	062500000P
Toxaphene	< 2.	ug/l	2.	062600000P
Endosulfan I	< 0.02	ug/l	0.02	062700000P
Endosulfan II	< 0.02	ug/l	0.02	062800000P
Endosulfan Sulfate	< 0.05	ug/l	0.05	062900000P
Endrin Aldehyde	< 0.2	ug/l	0.2	063800000P
PCB-1016	< 2.	ug/l	2.	063900000P
PCB-1221	< 2.	ug/l	2.	064000000P
PCB-1232	< 2.	ug/l	2.	064100000P
PCB-1242	< 2.	ug/l	2.	064200000P
PCB-1248	< 2.	ug/l	2.	064300000P
PCB-1254	< 2.	ug/l	2.	064400000P
PCB-1260	< 2.	ug/l	2.	064500000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171764

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
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Rel.

#2 Blaine Well Grab Water Sample
Collected on 06/24/87 (1115) by WW/KW

Purgables Method # 624	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Chloromethane	< 10.	ug/l	10.	082700000P
Bromomethane	< 10.	ug/l	10.	082800000P
Vinyl chloride	< 10.	ug/l	10.	082900000P
Chloroethane	< 10.	ug/l	10.	083000000P
Acrolein	< 100.	ug/l	100.	082400000P
Acrylonitrile	< 100.	ug/l	100.	082500000P
Methylene chloride	< 5.	ug/l	5.	083100000P
Fluorotrichloromethane	< 5.	ug/l	5.	079000000P
1,1-Dichloroethene	< 5.	ug/l	5.	083200000P
1,1-Dichloroethane	< 5.	ug/l	5.	083300000P
trans-1,2-Dichloroethene	< 5.	ug/l	5.	083400000P
Chloroform	< 5.	ug/l	5.	083500000P
1,2-Dichloroethane	< 5.	ug/l	5.	083600000P
1,1,1-Trichloroethane	< 5.	ug/l	5.	083700000P
Carbon tetrachloride	< 5.	ug/l	5.	083800000P
Dichlorobromomethane	< 5.	ug/l	5.	083900000P
1,1,2,2-Tetrachloroethane	< 5.	ug/l	5.	084900000P
1,2-Dichloropropane	< 5.	ug/l	5.	084000000P
trans-1,3-Dichloropropene	< 5.	ug/l	5.	084100000P
Trichloroethene	< 5.	ug/l	5.	084200000P
Dibromochloromethane	< 5.	ug/l	5.	084600000P
1,1,2-Trichloroethane	< 5.	ug/l	5.	084500000P
Benzene	< 5.	ug/l	5.	084300000P
cis-1,3-Dichloropropene	< 5.	ug/l	5.	084400000P
2-Chloroethylvinyl ether	< 10.	ug/l	10.	082600000P
Bromoform	< 5.	ug/l	5.	084700000P
Tetrachloroethene	11.	ug/l	5.	084800000P
Toluene	< 5.	ug/l	5.	085000000P
Chlorobenzene	< 5.	ug/l	5.	085100000P
Ethylbenzene	< 5.	ug/l	5.	085200000P

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The American Association for Laboratory Accreditation
Chemical & Biological fields of testing

Member American Council of

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Nelson H. Risser B.A.
Senior Chemist- GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171764

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#2 Blaine Well Grab Water Sample
Collected on 06/24/87 (1115) by WW/KW

Acid Extractables	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
2-chlorophenol	< 10.	ug/l	10.	064600000P
phenol	< 10.	ug/l	10.	065500000P
2-nitrophenol	< 10.	ug/l	10.	065100000P
2,4-dimethylphenol	< 10.	ug/l	10.	064800000P
2,4-dichlorophenol	< 10.	ug/l	10.	064700000P
4-chloro-3-methylphenol	< 10.	ug/l	10.	065300000P
2,4,6-trichlorophenol	< 10.	ug/l	10.	065600000P
2,4-dinitrophenol	< 25.	ug/l	25.	065000000P
4-nitrophenol	< 25.	ug/l	25.	065200000P
2-methyl-4,6-dinitrophenol	< 25.	ug/l	25.	064900000P
pentachlorophenol	< 25.	ug/l	25.	065400000P

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SEE REVERSE SIOE FOR EXPLANATION OF SYMBOLS ANO ABBREVIATIONS AND OUR STANDARO TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171764

University of Montana
Department of Geology
Missoula, MT 59812

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#2 Blaine Well Grab Water Sample
Collected on 06/24/87 (1115) by WW/KW

Base Neutrals (cont)	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
anthracene	< 10.	ug/l	10.	065900000P
di-n-butyl phthalate	< 10.	ug/l	10.	068200000P
fluoranthene	< 10.	ug/l	10.	068700000P
pyrene	< 10.	ug/l	10.	070100000P
benzidine	< 25.	ug/l	25.	066000000P
butyl benzyl phthalate	< 10.	ug/l	10.	067100000P
benzo (a) anthracene	< 10.	ug/l	10.	066100000P
chrysene	< 10.	ug/l	10.	067400000P
3,3'-dichlorobenzidine	< 25.	ug/l	25.	067900000P
bis (2-ethylhexyl) phthalate	40.	ug/l	10.	066900000P
di-n-octyl phthalate	< 10.	ug/l	10.	068500000P
benzo (b) fluoranthene	< 10.	ug/l	10.	066300000P
benzo (K) fluoranthene	< 10.	ug/l	10.	066500000P
benzo (a) pyrene	< 10.	ug/l	10.	066200000P
indeno (1,2,3-cd) pyrene	< 10.	ug/l	10.	069300000P
dibenzo (a,h) anthracene	< 10.	ug/l	10.	067500000P
benzo (ghi) perylene	< 10.	ug/l	10.	066400000P

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Group Leader, GC/MS

ANALYSIS REPORT

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2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

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University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
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Rel.

#2 Blaine Well Grab Water Sample
Collected on 06/24/87 (1115) by WW/KW

Base Neutrals	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
N-nitrosodimethylamine	< 10.	ug/l	10.	069700000P
bis (2-chloroethyl) ether	< 10.	ug/l	10.	066700000P
1,3-dichlorobenzene	< 10.	ug/l	10.	067700000P
1,4-dichlorobenzene	< 10.	ug/l	10.	067800000P
1,2-dichlorobenzene	< 10.	ug/l	10.	067600000P
bis (2-chloroisopropyl) ether	< 10.	ug/l	10.	066800000P
hexachloroethane	< 10.	ug/l	10.	069200000P
N-nitrosodi-n-propylamine	< 10.	ug/l	10.	069800000P
nitrobenzene	< 10.	ug/l	10.	069600000P
isophorone	< 10.	ug/l	10.	069400000P
bis (2-chloroethoxy) methane	< 10.	ug/l	10.	066600000P
1,2,4-trichlorobenzene	< 10.	ug/l	10.	070200000P
naphthalene	< 10.	ug/l	10.	069500000P
hexachlorobutadiene	< 10.	ug/l	10.	069000000P
hexachlorocyclopentadiene	< 10.	ug/l	10.	069100000P
2-chloronaphthalene	< 10.	ug/l	10.	067200000P
acenaphthylene	< 10.	ug/l	10.	065800000P
dimethyl phthalate	< 10.	ug/l	10.	068100000P
2,6-dinitrotoluene	< 10.	ug/l	10.	068400000P
acenaphthene	< 10.	ug/l	10.	065700000P
2,4-dinitrotoluene	< 10.	ug/l	10.	068300000P
fluorene	< 10.	ug/l	10.	068800000P
4-chlorophenyl phenyl ether	< 10.	ug/l	10.	067300000P
diethyl phthalate	< 10.	ug/l	10.	068000000P
1,2-diphenylhydrazine	< 10.	ug/l	10.	068600000P
N-nitrosodiphenylamine	< 10.	ug/l	10.	069900000P
4-bromophenyl phenyl ether	< 10.	ug/l	10.	067000000P
hexachlorobenzene	< 10.	ug/l	10.	068900000P
phenanthrene	< 10.	ug/l	10.	070000000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171765

University of Montana
Oepartment of Geology
Missoula, MT 59812

#3 South Well Grab Water Sample
Collected on 06/24/87 (1200) by WW/KW

Oate Reported 7/ 9/87
Oate Submitted 6/25/87
Discard Oate 7/17/87
Collected by C
P.O. 608844
Rel.

ANALYSIS	RESULT AS RECEIVED	LIMIT OF OETECTION	LAB CODE
Pesticides/PCB's	attached		017814000P
Purgables Method # 624	attached		052022000P
Acid Extractables	attached		055216000P
Base Neutrals	attached		055328000P
Base Neutrals (cont)	attached		055400000P

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The American Association for Laboratory Accreditation
Chemical & Biological fields of testing

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03893 0.00 080000

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Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171765

University of Montana
Oepartment of Geology
Missoula, MT 59812

#3 South Well Grab Water Sample
Collected on 06/24/87 (1200) by WW/KW

Oate Reported 7/ 9/87
Date Submitted 6/25/87
Discard Oate 7/17/87
Collected by C
P.O. 608844
Rel.

Pesticides/PCB's	RESULT AS RECEIVED		LIMIT OF OETECTION	LAB CODE
Alpha BHC	< 0.02	ug/l	0.02	060900000P
Beta BHC	< 0.02	ug/l	0.02	061000000P
Gamma BHC - Lindane	< 0.02	ug/l	0.02	045300000P
Oelta BHC	< 0.02	ug/l	0.02	061200000P
Heptachlor	< 0.02	ug/l	0.02	045400000P
Aldrin	< 0.02	ug/l	0.02	045500000P
Heptachlor Epoxide	< 0.02	ug/l	0.02	061500000P
DOE	< 0.02	ug/l	0.02	061600000P
DOO	< 0.02	ug/l	0.02	061700000P
OOT	< 0.02	ug/l	0.02	047800000P
Oieldrin	< 0.02	ug/l	0.02	046900000P
Endrin	< 0.02	ug/l	0.02	047700000P
Chlordane	< 0.1	ug/l	0.1	062500000P
Toxaphene	< 2.	ug/l	2.	062600000P
Endosulfan I	< 0.02	ug/l	0.02	062700000P
Endosulfan II	< 0.02	ug/l	0.02	062800000P
Endosulfan Sulfate	< 0.05	ug/l	0.05	062900000P
Endrin Aldehyde	< 0.2	ug/l	0.2	063800000P
PCB-1016	< 2.	ug/l	2.	063900000P
PCB-1221	< 2.	ug/l	2.	064000000P
PCB-1232	< 2.	ug/l	2.	064100000P
PCB-1242	< 2.	ug/l	2.	064200000P
PCB-1248	< 2.	ug/l	2.	064300000P
PCB-1254	< 2.	ug/l	2.	064400000P
PCB-1260	< 2.	ug/l	2.	064500000P

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Richard C. Entz, B.A.
Group Leader, Organic Analysis

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LLI Sample No. WW 1171765

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#3 South Well Grab Water Sample
Collected on 06/24/87 (1200) by WW/KW

Purgables Method # 624	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Chloromethane	< 10.	ug/l	10.	082700000P
Bromomethane	< 10.	ug/l	10.	082800000P
Vinyl chloride	< 10.	ug/l	10.	082900000P
Chloroethane	< 10.	ug/l	10.	083000000P
Acrolein	< 100.	ug/l	100.	082400000P
Acrylonitrile	< 100.	ug/l	100.	082500000P
Methylene chloride	< 5.	ug/l	5.	083100000P
Fluorotrichloromethane	< 5.	ug/l	5.	079000000P
1,1-Dichloroethene	< 5.	ug/l	5.	083200000P
1,1-Dichloroethane	< 5.	ug/l	5.	083300000P
trans-1,2-Dichloroethene	< 5.	ug/l	5.	083400000P
Chloroform	< 5.	ug/l	5.	083500000P
1,2-Dichloroethane	< 5.	ug/l	5.	083600000P
1,1,1-Trichloroethane	< 5.	ug/l	5.	083700000P
Carbon tetrachloride	< 5.	ug/l	5.	083800000P
Dichlorobromomethane	< 5.	ug/l	5.	083900000P
1,1,2,2-Tetrachloroethane	< 5.	ug/l	5.	084900000P
1,2-Dichloropropane	< 5.	ug/l	5.	084000000P
trans-1,3-Dichloropropene	< 5.	ug/l	5.	084100000P
Trichloroethene	< 5.	ug/l	5.	084200000P
Dibromochloromethane	< 5.	ug/l	5.	084600000P
1,1,2-Trichloroethane	< 5.	ug/l	5.	084500000P
Benzene	< 5.	ug/l	5.	084300000P
cis-1,3-Dichloropropene	< 5.	ug/l	5.	084400000P
2-Chloroethylvinyl ether	< 10.	ug/l	10.	082600000P
Bromoform	< 5.	ug/l	5.	084700000P
Tetrachloroethene	< 5.	ug/l	5.	084800000P
Toluene	< 5.	ug/l	5.	085000000P
Chlorobenzene	< 5.	ug/l	5.	085100000P
Ethylbenzene	< 5.	ug/l	5.	085200000P

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Chemical & Biological fields of testing
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SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Nelson H. Risser B.A.
Senior Chemist- GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171765

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#3 South Well Grab Water Sample
Collected on 06/24/87 (1200) by WW/KW

Acid Extractables	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
2-chlorophenol	< 10.	ug/l	10.	064600000P
phenol	< 10.	ug/l	10.	065500000P
2-nitrophenol	< 10.	ug/l	10.	065100000P
2,4-dimethylphenol	< 10.	ug/l	10.	064800000P
2,4-dichlorophenol	< 10.	ug/l	10.	064700000P
4-chloro-3-methylphenol	< 10.	ug/l	10.	065300000P
2,4,6-trichlorophenol	< 10.	ug/l	10.	065600000P
2,4-dinitrophenol	< 25.	ug/l	25.	065000000P
4-nitrophenol	< 25.	ug/l	25.	065200000P
2-methyl-4,6-dinitrophenol	< 25.	ug/l	25.	064900000P
pentachlorophenol	< 25.	ug/l	25.	065400000P

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Robert Walker, B.A.
Group Leader, GC/MS

LLI Sample No. WW 1171765

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Rel.

#3 South Well Grab Water Sample
Collected on 06/24/87 (1200) by WW/KW

Base Neutrals	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
N-nitrosodimethylamine	< 10.	ug/l	10.	069700000P
bis (2-chloroethyl) ether	< 10.	ug/l	10.	066700000P
1,3-dichlorobenzene	< 10.	ug/l	10.	067700000P
1,4-dichlorobenzene	< 10.	ug/l	10.	067800000P
1,2-dichlorobenzene	< 10.	ug/l	10.	067600000P
bis (2-chloroisopropyl) ether	< 10.	ug/l	10.	066800000P
hexachloroethane	< 10.	ug/l	10.	069200000P
N-nitrosodi-n-propylamine	< 10.	ug/l	10.	069800000P
nitrobenzene	< 10.	ug/l	10.	069600000P
isophorone	< 10.	ug/l	10.	069400000P
bis (2-chloroethoxy) methane	< 10.	ug/l	10.	066600000P
1,2,4-trichlorobenzene	< 10.	ug/l	10.	070200000P
naphthalene	< 10.	ug/l	10.	069500000P
hexachlorobutadiene	< 10.	ug/l	10.	069000000P
hexachlorocyclopentadiene	< 10.	ug/l	10.	069100000P
2-chloronaphthalene	< 10.	ug/l	10.	067200000P
acenaphthylene	< 10.	ug/l	10.	065800000P
dimethyl phthalate	< 10.	ug/l	10.	068100000P
2,6-dinitrotoluene	< 10.	ug/l	10.	068400000P
acenaphthene	< 10.	ug/l	10.	065700000P
2,4-dinitrotoluene	< 10.	ug/l	10.	068300000P
fluorene	< 10.	ug/l	10.	068800000P
4-chlorophenyl phenyl ether	< 10.	ug/l	10.	067300000P
diethyl phthalate	< 10.	ug/l	10.	068000000P
1,2-diphenylhydrazine	< 10.	ug/l	10.	068600000P
N-nitrosodiphenylamine	< 10.	ug/l	10.	069900000P
4-bromophenyl phenyl ether	< 10.	ug/l	10.	067000000P
hexachlorobenzene	< 10.	ug/l	10.	068900000P
phenanthrene	< 10.	ug/l	10.	070000000P

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The American Association for Laboratory Accreditation
Chemical & Biological fields of testing

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#3 South Well Grab Water Sample
Collected on 06/24/87 (1200) by WW/KW

Base Neutrals (cont)	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
anthracene	< 10.	ug/l	10.	065900000P
di-n-butyl phthalate	< 10.	ug/l	10.	068200000P
fluoranthene	< 10.	ug/l	10.	068700000P
pyrene	< 10.	ug/l	10.	070100000P
benzidine	< 25.	ug/l	25.	066000000P
butyl benzyl phthalate	< 10.	ug/l	10.	067100000P
benzo (a) anthracene	< 10.	ug/l	10.	066100000P
chrysene	< 10.	ug/l	10.	067400000P
3,3'-dichlorobenzidine	< 25.	ug/l	25.	067900000P
bis (2-ethylhexyl) phthalate	80.	ug/l	10.	066900000P
di-n-octyl phthalate	< 10.	ug/l	10.	068500000F
benzo (b) fluoranthene	< 10.	ug/l	10.	066300000P
benzo (K) fluoranthene	< 10.	ug/l	10.	066500000P
benzo (a) pyrene	< 10.	ug/l	10.	066200000P
indeno (1,2,3-cd) pyrene	< 10.	ug/l	10.	069300000P
dibenzo (a,h) anthracene	< 10.	ug/l	10.	067500000P
benzo (ghi) perylene	< 10.	ug/l	10.	066400000P

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Chemical & Biological fields of testing

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

ANALYSIS REPORT

LLI Sample No. WW 1171766

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#4 706 Gray #28 Grab Water Sample
Collected on 06/24/87 (1415) by WW/KW

ANALYSIS	RESULT AS RECEIVED	LIMIT OF DETECTION	LAB CODE
Pesticides/PCB's	attached		017814000P
Purgables Method # 624	attached		052022000P
Acid Extractables	attached		055216000P
Base Neutrals	attached		055328000P
Base Neutrals (cont)	attached		055400000P

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03893 0.00 080000

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Group Leader, GC/MS

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2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

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LLI Sample No. WW 1171766

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#4 706 Gray #28 Grab Water Sample
Collected on 06/24/87 (1415) by WW/KW

Pesticides/PCB's	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Alpha BHC	< 0.02	ug/l	0.02	060900000P
Beta BHC	< 0.02	ug/l	0.02	061000000P
Gamma BHC - Lindane	< 0.02	ug/l	0.02	045300000P
Delta BHC	< 0.02	ug/l	0.02	061200000P
Heptachlor	< 0.02	ug/l	0.02	045400000P
Aldrin	< 0.02	ug/l	0.02	045500000P
Heptachlor Epoxide	< 0.02	ug/l	0.02	061500000P
DDE	< 0.02	ug/l	0.02	061600000P
DDD	< 0.02	ug/l	0.02	061700000P
DDT	< 0.02	ug/l	0.02	047800000P
Dieldrin	< 0.02	ug/l	0.02	046900000P
Endrin	< 0.02	ug/l	0.02	047700000P
Chlordane	< 0.1	ug/l	0.1	062500000P
Toxaphene	< 2.	ug/l	2.	062600000P
Endosulfan I	< 0.02	ug/l	0.02	062700000P
Endosulfan II	< 0.02	ug/l	0.02	062800000P
Endosulfan Sulfate	< 0.05	ug/l	0.05	062900000P
Endrin Aldehyde	< 0.2	ug/l	0.2	063800000P
PCB-1016	< 2.	ug/l	2.	063900000P
PCB-1221	< 2.	ug/l	2.	064000000P
PCB-1232	< 2.	ug/l	2.	064100000P
PCB-1242	< 2.	ug/l	2.	064200000P
PCB-1248	< 2.	ug/l	2.	064300000P
PCB-1254	< 2.	ug/l	2.	064400000P
PCB-1260	< 2.	ug/l	2.	064500000P
Methoxychlor	< 0.1	ug/l	0.1	062100000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171766

University of Montana
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Missoula, MT 59812

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#4 706 Gray #28 Grab Water Sample
Collected on 06/24/87 (1415) by WW/KW

Purgables Method # 624	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Chloromethane	< 10.	ug/l	10.	082700000P
Bromomethane	< 10.	ug/l	10.	082800000P
Vinyl chloride	< 10.	ug/l	10.	082900000P
Chloroethane	< 10.	ug/l	10.	083000000P
Acrolein	< 100.	ug/l	100.	082400000P
Acrylonitrile	< 100.	ug/l	100.	082500000P
Methylene chloride	< 5.	ug/l	5.	083100000P
Fluorotrichloromethane	< 5.	ug/l	5.	079000000P
1,1-Dichloroethene	< 5.	ug/l	5.	083200000P
1,1-Dichloroethane	< 5.	ug/l	5.	083300000P
trans-1,2-Dichloroethene	< 5.	ug/l	5.	083400000P
Chloroform	< 5.	ug/l	5.	083500000P
1,2-Dichloroethane	< 5.	ug/l	5.	083600000P
1,1,1-Trichloroethane	< 5.	ug/l	5.	083700000P
Carbon tetrachloride	< 5.	ug/l	5.	083800000P
Dichlorobromomethane	< 5.	ug/l	5.	083900000P
1,1,2,2-Tetrachloroethane	< 5.	ug/l	5.	084900000P
1,2-Dichloropropane	< 5.	ug/l	5.	084000000P
trans-1,3-Dichloropropene	< 5.	ug/l	5.	084100000P
Trichloroethene	< 5.	ug/l	5.	084200000P
Dibromochloromethane	< 5.	ug/l	5.	084600000P
1,1,2-Trichloroethane	< 5.	ug/l	5.	084500000P
Benzene	< 5.	ug/l	5.	084300000P
cis-1,3-Dichloropropene	< 5.	ug/l	5.	084400000P
2-Chloroethylvinyl ether	< 10.	ug/l	10.	082600000P
Bromoform	< 5.	ug/l	5.	084700000P
Tetrachloroethene	< 5.	ug/l	5.	084800000P
Toluene	< 5.	ug/l	5.	085000000P
Chlorobenzene	< 5.	ug/l	5.	085100000P
Ethylbenzene	< 5.	ug/l	5.	085200000P

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Chemical & Biological fields of testing
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SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Nelson H. Risser B.A.
Senior Chemist- GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171766

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#4 706 Gray #28 Grab Water Sample
Collected on 06/24/87 (1415) by WW/KW

Acid Extractables	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
2-chlorophenol	< 10.	ug/l	10.	064600000P
phenol	< 10.	ug/l	10.	065500000P
2-nitrophenol	< 10.	ug/l	10.	065100000P
2,4-dimethylphenol	< 10.	ug/l	10.	064800000P
2,4-dichlorophenol	< 10.	ug/l	10.	064700000P
4-chloro-3-methylphenol	< 10.	ug/l	10.	065300000P
2,4,6-trichlorophenol	< 10.	ug/l	10.	065600000P
2,4-dinitrophenol	< 25.	ug/l	25.	065000000P
4-nitrophenol	< 25.	ug/l	25.	065200000P
2-methyl-4,6-dinitrophenol	< 25.	ug/l	25.	064900000P
pentachlorophenol	< 25.	ug/l	25.	065400000P

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Robert Walker, B.A.
Group Leader, GC/MS

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Missoula, MT 59812

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#4 706 Gray #28 Grab Water Sample
Collected on 06/24/87 (1415) by WW/KW

Base Neutrals	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
N-nitrosodimethylamine	< 10.	ug/l	10.	069700000P
bis (2-chloroethyl) ether	< 10.	ug/l	10.	066700000P
1,3-dichlorobenzene	< 10.	ug/l	10.	067700000P
1,4-dichlorobenzene	< 10.	ug/l	10.	067800000P
1,2-dichlorobenzene	< 10.	ug/l	10.	067600000P
bis (2-chloroisopropyl) ether	< 10.	ug/l	10.	066800000P
hexachloroethane	< 10.	ug/l	10.	069200000P
N-nitrosodi-n-propylamine	< 10.	ug/l	10.	069800000P
nitrobenzene	< 10.	ug/l	10.	069600000P
isophorone	< 10.	ug/l	10.	069400000P
bis (2-chloroethoxy) methane	< 10.	ug/l	10.	066600000P
1,2,4-trichlorobenzene	< 10.	ug/l	10.	070200000P
naphthalene	< 10.	ug/l	10.	069500000P
hexachlorobutadiene	< 10.	ug/l	10.	069000000P
hexachlorocyclopentadiene	< 10.	ug/l	10.	069100000P
2-chloronaphthalene	< 10.	ug/l	10.	067200000P
acenaphthylene	< 10.	ug/l	10.	065800000P
dimethyl phthalate	< 10.	ug/l	10.	068100000P
2,6-dinitrotoluene	< 10.	ug/l	10.	068400000P
acenaphthene	< 10.	ug/l	10.	065700000P
2,4-dinitrotoluene	< 10.	ug/l	10.	068300000P
fluorene	< 10.	ug/l	10.	068800000P
4-chlorophenyl phenyl ether	< 10.	ug/l	10.	067300000P
diethyl phthalate	< 10.	ug/l	10.	068000000P
1,2-diphenylhydrazine	< 10.	ug/l	10.	068600000P
N-nitrosodiphenylamine	< 10.	ug/l	10.	069900000P
4-bromophenyl phenyl ether	< 10.	ug/l	10.	067000000P
hexachlorobenzene	< 10.	ug/l	10.	068900000P
phenanthrene	< 10.	ug/l	10.	070000000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Revieved and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

ANALYSIS REPORT

LLI Sample No. WW 1171766

University of Montana
Department of Geology
Missoula, MT 59812

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Rel.

#4 706 Gray #28 Grab Water Sample
Collected on 06/24/87 (1415) by WW/KW

Base Neutrals (cont)	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
anthracene	< 10.	ug/l	10.	065900000P
di-n-butyl phthalate	< 10.	ug/l	10.	068200000P
fluoranthene	< 10.	ug/l	10.	068700000P
pyrene	< 10.	ug/l	10.	070100000P
benzidine	< 25.	ug/l	25.	066000000P
butyl benzyl phthalate	< 10.	ug/l	10.	067100000P
benzo (a) anthracene	< 10.	ug/l	10.	066100000P
chrysene	< 10.	ug/l	10.	067400000P
3,3'-dichlorobenzidine	< 25.	ug/l	25.	067900000P
bis (2-ethylhexyl) phthalate	< 10.	ug/l	10.	066900000P
di-n-octyl phthalate	< 10.	ug/l	10.	068500000P
benzo (b) fluoranthene	< 10.	ug/l	10.	066300000P
benzo (K) fluoranthene	< 10.	ug/l	10.	066500000P
benzo (a) pyrene	< 10.	ug/l	10.	066200000P
indeno (1,2,3-cd) pyrene	< 10.	ug/l	10.	069300000P
dibenzo (a,h) anthracene	< 10.	ug/l	10.	067500000P
benzo (ghi) perylene	< 10.	ug/l	10.	066400000P

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Revieved and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171767

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#5 1250 Lena #33 Grab Water Sample
Collected on 06/24/87 (1445) by WW/KW

ANALYSIS	RESULT AS RECEIVED	LIMIT OF DETECTION	LAB CODE
Pesticides/PCB's	attached		017814000P
Purgables Method # 624	attached		052022000P
Acid Extractables	attached		055216000P
Base Neutrals	attached		055328000P
Base Neutrals (cont)	attached		055400000P

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Robert Walker, B.A.
Group Leader, GC/MS

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2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

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Missoula, MT 59812

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P.O. 608844
Rel.

#5 1250 Lena #33 Grab Water Sample
Collected on 06/24/87 (1445) by WW/KW

Pesticides/PCB's	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Alpha BHC	< 0.02	ug/l	0.02	060900000P
Beta BHC	< 0.02	ug/l	0.02	061000000P
Gamma BHC - Lindane	< 0.02	ug/l	0.02	045300000P
Delta BHC	< 0.02	ug/l	0.02	061200000P
Heptachlor	< 0.02	ug/l	0.02	045400000P
Aldrin	< 0.02	ug/l	0.02	045500000P
Heptachlor Epoxide	< 0.02	ug/l	0.02	061500000P
DDE	< 0.02	ug/l	0.02	061600000P
DDD	< 0.02	ug/l	0.02	061700000P
DDT	< 0.02	ug/l	0.02	047800000P
Dieldrin	< 0.02	ug/l	0.02	046900000P
Endrin	< 0.02	ug/l	0.02	047700000P
Chlordane	< 0.1	ug/l	0.1	062500000P
Toxaphene	< 2.	ug/l	2.	062600000P
Endosulfan I	< 0.02	ug/l	0.02	062700000P
Endosulfan II	< 0.02	ug/l	0.02	062800000P
Endosulfan Sulfate	< 0.05	ug/l	0.05	062900000P
Endrin Aldehyde	< 0.2	ug/l	0.2	063800000P
PCB-1016	< 2.	ug/l	2.	063900000P
PCB-1221	< 2.	ug/l	2.	064000000P
PCB-1232	< 2.	ug/l	2.	064100000P
PCB-1242	< 2.	ug/l	2.	064200000P
PCB-1248	< 2.	ug/l	2.	064300000P
PCB-1254	< 2.	ug/l	2.	064400000P
PCB-1260	< 2.	ug/l	2.	064500000P

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Chemical & Biological fields of testing

Member American Council of Independent Laboratories, Inc.

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171767

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
Date Submitted 6/25/87
Discard Date 7/17/87
Collected by C
P.O. 608844
Rel.

#5 1250 Lena #33 Grab Water Sample
Collected on 06/24/87 (1445) by WW/KW

Purgables Method # 624	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Chloromethane	< 10.	ug/l	10.	082700000P
Bromomethane	< 10.	ug/l	10.	082800000P
Vinyl chloride	< 10.	ug/l	10.	082900000P
Chloroethane	< 10.	ug/l	10.	083000000P
Acrolein	< 100.	ug/l	100.	082400000P
Acrylonitrile	< 100.	ug/l	100.	082500000P
Methylene chloride	22.	ug/l	5.	083100000P
Fluorotrichloromethane	< 5.	ug/l	5.	079000000P
1,1-Dichloroethene	< 5.	ug/l	5.	083200000P
1,1-Dichloroethane	< 5.	ug/l	5.	083300000P
trans-1,2-Dichloroethene	< 5.	ug/l	5.	083400000P
Chloroform	< 5.	ug/l	5.	083500000P
1,2-Dichloroethane	< 5.	ug/l	5.	083600000P
1,1,1-Trichloroethane	< 5.	ug/l	5.	083700000P
Carbon tetrachloride	< 5.	ug/l	5.	083800000P
Dichlorobromomethane	< 5.	ug/l	5.	083900000P
1,1,2,2-Tetrachloroethane	< 5.	ug/l	5.	084900000P
1,2-Dichloropropane	< 5.	ug/l	5.	084000000P
trans-1,3-Dichloropropene	< 5.	ug/l	5.	084100000P
Trichloroethene	< 5.	ug/l	5.	084200000P
Dibromochloromethane	< 5.	ug/l	5.	084600000P
1,1,2-Trichloroethane	< 5.	ug/l	5.	084500000P
Benzene	< 5.	ug/l	5.	084300000P
cis-1,3-Dichloropropene	< 5.	ug/l	5.	084400000P
2-Chloroethylvinyl ether	< 10.	ug/l	10.	082600000P
Bromoform	< 5.	ug/l	5.	084700000P
Tetrachloroethene	< 5.	ug/l	5.	084800000P
Toluene	< 5.	ug/l	5.	085000000P
Chlorobenzene	< 5.	ug/l	5.	085100000P
Ethylbenzene	< 5.	ug/l	5.	085200000P

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SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Nelson H. Risser B.A.
Senior Chemist- GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171767

University of Montana
Department of Geology
Missoula, MT 59812

Date Reported 7/ 9/87
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#5 1250 Lena #33 Grab Water Sample
Collected on 06/24/87 (1445) by WW/KW

Acid Extractables	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
2-chlorophenol	< 10.	ug/l	10.	064600000P
phenol	< 10.	ug/l	10.	065500000P
2-nitrophenol	< 10.	ug/l	10.	065100000P
2,4-dimethylphenol	< 10.	ug/l	10.	064800000P
2,4-dichlorophenol	< 10.	ug/l	10.	064700000P
4-chloro-3-methylphenol	< 10.	ug/l	10.	065300000P
2,4,6-trichlorophenol	< 10.	ug/l	10.	065600000P
2,4-dinitrophenol	< 25.	ug/l	25.	065000000P
4-nitrophenol	< 25.	ug/l	25.	065200000P
2-methyl-4,6-dinitrophenol	< 25.	ug/l	25.	064900000P
pentachlorophenol	< 25.	ug/l	25.	065400000P

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Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

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2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

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#5 1250 Lena #33 Grab Water Sample
Collected on 06/24/87 (1445) by WW/KW

Base Neutrals	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
N-nitrosodimethylamine	< 10.	ug/l	10.	069700000P
bis (2-chloroethyl) ether	< 10.	ug/l	10.	066700000P
1,3-dichlorobenzene	< 10.	ug/l	10.	067700000P
1,4-dichlorobenzene	< 10.	ug/l	10.	067800000P
1,2-dichlorobenzene	< 10.	ug/l	10.	067600000P
bis (2-chloroisopropyl) ether	< 10.	ug/l	10.	066800000P
hexachloroethane	< 10.	ug/l	10.	069200000P
N-nitrosodi-n-propylamine	< 10.	ug/l	10.	069800000P
nitrobenzene	< 10.	ug/l	10.	069600000P
isophorone	< 10.	ug/l	10.	069400000P
bis (2-chloroethoxy) methane	< 10.	ug/l	10.	066600000P
1,2,4-trichlorobenzene	< 10.	ug/l	10.	070200000P
naphthalene	< 10.	ug/l	10.	069500000P
hexachlorobutadiene	< 10.	ug/l	10.	069000000P
hexachlorocyclopentadiene	< 10.	ug/l	10.	069100000P
2-chloronaphthalene	< 10.	ug/l	10.	067200000P
acenaphthylene	< 10.	ug/l	10.	065800000P
dimethyl phthalate	< 10.	ug/l	10.	068100000P
2,6-dinitrotoluene	< 10.	ug/l	10.	068400000P
acenaphthene	< 10.	ug/l	10.	065700000P
2,4-dinitrotoluene	< 10.	ug/l	10.	068300000P
fluorene	< 10.	ug/l	10.	068800000P
4-chlorophenyl phenyl ether	< 10.	ug/l	10.	067300000P
diethyl phthalate	< 10.	ug/l	10.	068000000P
1,2-diphenylhydrazine	< 10.	ug/l	10.	068600000P
N-nitrosodiphenylamine	< 10.	ug/l	10.	069900000P
4-bromophenyl phenyl ether	< 10.	ug/l	10.	067000000P
hexachlorobenzene	< 10.	ug/l	10.	068900000P
phenanthrene	< 10.	ug/l	10.	070000000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

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Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

ANALYSIS REPORT

LLI Sample No. WW 1171767

University of Montana
Department of Geology
Missoula, MT 59812

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#5 1250 Lena #33 Grab Water Sample
Collected on 06/24/87 (1445) by WW/KW

Base Neutrals (cont)	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
anthracene	< 10.	ug/l	10.	065900000P
di-n-butyl phthalate	< 10.	ug/l	10.	068200000P
fluoranthene	< 10.	ug/l	10.	068700000P
pyrene	< 10.	ug/l	10.	070100000P
benzidine	< 25.	ug/l	25.	066000000P
butyl benzyl phthalate	< 10.	ug/l	10.	067100000P
benzo (a) anthracene	< 10.	ug/l	10.	066100000P
chrysene	< 10.	ug/l	10.	067400000P
3,3'-dichlorobenzidine	< 25.	ug/l	25.	067900000P
bis (2-ethylhexyl) phthalate	< 10.	ug/l	10.	066900000P
di-n-octyl phthalate	< 10.	ug/l	10.	068500000P
benzo (b) fluoranthene	< 10.	ug/l	10.	066300000P
benzo (K) fluoranthene	< 10.	ug/l	10.	066500000P
benzo (a) pyrene	< 10.	ug/l	10.	066200000P
indeno (1,2,3-cd) pyrene	< 10.	ug/l	10.	069300000P
dibenzo (a,h) anthracene	< 10.	ug/l	10.	067500000P
benzo (ghi) perylene	< 10.	ug/l	10.	066400000P

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Group Leader, GC/MS

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Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171768

University of Montana
Department of Geology
Missoula, MT 59812

#6 3416 South #60 Grab Water Sample
Collected on 06/24/87 (1515) by WW/KW

Date Reported 7/ 9/87
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P.O. 608844
Rel.

ANALYSIS	RESULT AS RECEIVED	LIMIT OF DETECTION	LAB CODE
Pesticides/PCB's	attached		017814000P
Purgables Method # 624	attached		052022000P
Acid Extractables	attached		055216000P
Base Neutrals	attached		055328000P
Base Neutrals (cont)	attached		055400000P

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Robert Walker, B.A.
Group Leader, GC/MS

ANALYSIS REPORT

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2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171768

University of Montana
Department of Geology
Missoula, MT 59812

#6 3416 South #60 Grab Water Sample
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Pesticides/PCB's	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Alpha BHC	< 0.02	ug/l	0.02	060900000P
Beta BHC	< 0.02	ug/l	0.02	061000000P
Gamma BHC - Lindane	< 0.02	ug/l	0.02	045300000P
Delta BHC	< 0.02	ug/l	0.02	061200000P
Heptachlor	< 0.02	ug/l	0.02	045400000P
Aldrin	< 0.02	ug/l	0.02	045500000P
Heptachlor Epoxide	< 0.02	ug/l	0.02	061500000P
DDE	< 0.02	ug/l	0.02	061600000P
DDD	< 0.02	ug/l	0.02	061700000P
DDT	< 0.02	ug/l	0.02	047800000P
Dieldrin	< 0.02	ug/l	0.02	046900000P
Endrin	< 0.02	ug/l	0.02	047700000P
Chlordane	< 0.1	ug/l	0.1	062500000P
Toxaphene	< 2.	ug/l	2.	062600000P
Endosulfan I	< 0.02	ug/l	0.02	062700000P
Endosulfan II	< 0.02	ug/l	0.02	062800000P
Endosulfan Sulfate	< 0.05	ug/l	0.05	062900000P
Endrin Aldehyde	< 0.2	ug/l	0.2	063800000P
PCB-1016	< 2.	ug/l	2.	063900000P
PCB-1221	< 2.	ug/l	2.	064000000P
PCB-1232	< 2.	ug/l	2.	064100000P
PCB-1242	< 2.	ug/l	2.	064200000P
PCB-1248	< 2.	ug/l	2.	064300000P
PCB-1254	< 2.	ug/l	2.	064400000P
PCB-1260	< 2.	ug/l	2.	064500000P

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Richard C. Entz, B.A.
Group Leader, Organic Analysis

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LLI Sample No. WW 1171768

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#6 3416 South #60 Grab Water Sample
Collected on 06/24/87 (1515) by WW/KW

Purgables Method # 624	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Chloromethane	< 10.	ug/l	10.	082700000P
Bromomethane	< 10.	ug/l	10.	082800000P
Vinyl chloride	< 10.	ug/l	10.	082900000P
Chloroethane	< 10.	ug/l	10.	083000000P
Acrolein	< 100.	ug/l	100.	082400000P
Acrylonitrile	< 100.	ug/l	100.	082500000P
Methylene chloride	20.	ug/l	5.	083100000P
Fluorotrichloromethane	< 5.	ug/l	5.	079000000P
1,1-Dichloroethene	< 5.	ug/l	5.	083200000P
1,1-Dichloroethane	< 5.	ug/l	5.	083300000P
trans-1,2-Dichloroethene	< 5.	ug/l	5.	083400000P
Chloroform	< 5.	ug/l	5.	083500000P
1,2-Dichloroethane	< 5.	ug/l	5.	083600000P
1,1,1-Trichloroethane	< 5.	ug/l	5.	083700000P
Carbon tetrachloride	< 5.	ug/l	5.	083800000P
Dichlorobromomethane	< 5.	ug/l	5.	083900000P
1,1,2,2-Tetrachloroethane	< 5.	ug/l	5.	084900000P
1,2-Dichloropropane	< 5.	ug/l	5.	084000000P
trans-1,3-Dichloropropene	< 5.	ug/l	5.	084100000P
Trichloroethene	< 5.	ug/l	5.	084200000P
Dibromochloromethane	< 5.	ug/l	5.	084600000P
1,1,2-Trichloroethane	< 5.	ug/l	5.	084500000P
Benzene	< 5.	ug/l	5.	084300000P
cis-1,3-Dichloropropene	< 5.	ug/l	5.	084400000P
2-Chloroethylvinyl ether	< 10.	ug/l	10.	082600000P
Bromoform	< 5.	ug/l	5.	084700000P
Tetrachloroethene	< 5.	ug/l	5.	084800000P
Toluene	< 5.	ug/l	5.	085000000P
Chlorobenzene	< 5.	ug/l	5.	085100000P
Ethylbenzene	< 5.	ug/l	5.	085200000P

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Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Nelson H. Risser B.A.
Senior Chemist- GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED
2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171768

University of Montana
Department of Geology
Missoula, MT 59812

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P.O. 608844
Rel.

#6 3416 South #60 Grab Water Sample
Collected on 06/24/87 (1515) by WW/KW

Acid Extractables	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
2-chlorophenol	< 10.	ug/l	10.	064600000P
phenol	< 10.	ug/l	10.	065500000P
2-nitrophenol	< 10.	ug/l	10.	065100000P
2,4-dimethylphenol	< 10.	ug/l	10.	064800000P
2,4-dichlorophenol	< 10.	ug/l	10.	064700000P
4-chloro-3-methylphenol	< 10.	ug/l	10.	065300000P
2,4,6-trichlorophenol	< 10.	ug/l	10.	065600000P
2,4-dinitrophenol	< 25.	ug/l	25.	065000000P
4-nitrophenol	< 25.	ug/l	25.	065200000P
2-methyl-4,6-dinitrophenol	< 25.	ug/l	25.	064900000P
pentachlorophenol	< 25.	ug/l	25.	065400000P

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Robert Walker, B.A.
Group Leader, GC/MS

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#6 3416 South #60 Grab Water Sample
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Base Neutrals	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
N-nitrosodimethylamine	< 10.	ug/l	10.	069700000P
bis (2-chloroethyl) ether	< 10.	ug/l	10.	066700000P
1,3-dichlorobenzene	< 10.	ug/l	10.	067700000P
1,4-dichlorobenzene	< 10.	ug/l	10.	067800000P
1,2-dichlorobenzene	< 10.	ug/l	10.	067600000P
bis (2-chloroisopropyl) ether	< 10.	ug/l	10.	066800000P
hexachloroethane	< 10.	ug/l	10.	069200000P
N-nitrosodi-n-propylamine	< 10.	ug/l	10.	069800000P
nitrobenzene	< 10.	ug/l	10.	069600000P
isophorone	< 10.	ug/l	10.	069400000P
bis (2-chloroethoxy) methane	< 10.	ug/l	10.	066600000P
1,2,4-trichlorobenzene	< 10.	ug/l	10.	070200000P
naphthalene	< 10.	ug/l	10.	069500000P
hexachlorobutadiene	< 10.	ug/l	10.	069000000P
hexachlorocyclopentadiene	< 10.	ug/l	10.	069100000P
2-chloronaphthalene	< 10.	ug/l	10.	067200000P
acenaphthylene	< 10.	ug/l	10.	065800000P
dimethyl phthalate	< 10.	ug/l	10.	068100000P
2,6-dinitrotoluene	< 10.	ug/l	10.	068400000P
acenaphthene	< 10.	ug/l	10.	065700000P
2,4-dinitrotoluene	< 10.	ug/l	10.	068300000P
fluorene	< 10.	ug/l	10.	068800000P
4-chlorophenyl phenyl ether	< 10.	ug/l	10.	067300000P
diethyl phthalate	< 10.	ug/l	10.	068000000P
1,2-diphenylhydrazine	< 10.	ug/l	10.	068600000P
N-nitrosodiphenylamine	< 10.	ug/l	10.	069900000P
4-bromophenyl phenyl ether	< 10.	ug/l	10.	067000000P
hexachlorobenzene	< 10.	ug/l	10.	068900000P
phenanthrene	< 10.	ug/l	10.	070000000P

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Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

2425 NEW HOLLAND PIKE, LANCASTER, PA 17601-5994 (717) 656-2301

LLI Sample No. WW 1171768

University of Montana
Department of Geology
Missoula, MT 59812

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#6 3416 South #60 Grab Water Sample
Collected on 06/24/87 (1515) by WW/KW

Base Neutrals (cont)	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
anthracene	< 10.	ug/l	10.	065900000P
di-n-butyl phthalate	< 10.	ug/l	10.	068200000P
fluoranthene	< 10.	ug/l	10.	068700000P
pyrene	< 10.	ug/l	10.	070100000P
benzidine	< 25.	ug/l	25.	066000000P
butyl benzyl phthalate	< 10.	ug/l	10.	067100000P
benzo (a) anthracene	< 10.	ug/l	10.	066100000P
chrysene	< 10.	ug/l	10.	067400000P
3,3'-dichlorobenzidine	< 25.	ug/l	25.	067900000P
bis (2-ethylhexyl) phthalate	< 10.	ug/l	10.	066900000P
di-n-octyl phthalate	< 10.	ug/l	10.	068500000P
benzo (b) fluoranthene	< 10.	ug/l	10.	066300000P
benzo (K) fluoranthene	< 10.	ug/l	10.	066500000P
benzo (a) pyrene	< 10.	ug/l	10.	066200000P
indeno (1,2,3-cd) pyrene	< 10.	ug/l	10.	069300000P
dibenzo (a,h) anthracene	< 10.	ug/l	10.	067500000P
benzo (ghi) perylene	< 10.	ug/l	10.	066400000P

1 COPY TO University of Montana ATTN: William W. Woessner

The American Association for Laboratory Accreditation
Chemical & Biological fields of testing

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS AND OUR STANDARD TERMS AND CONDITIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Robert Walker, B.A.
Group Leader, GC/MS

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